The Lumleian Lectures
ON
TABES DORSALIS.

Delivered before the Royal College of Physicians of London on March 22nd, 27th, and 29th,

By DAVID FERRIER, M.D. EDIN., F.R.S.,
FELLOW OF THE COLLEGE; PROFESSOR OF NEURO-PATHOLOGY IN KING'S COLLEGE, LONDON; PHYSICIAN TO KING'S COLLEGE HOSPITAL; AND PHYSICIAN TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN-SQUARE, BLOOMSBURY.

LECTURE III.[1]

Delivered on March 29th.

PHYSIOLOGICAL PATHOLOGY OF TABES.

MR. PRESIDENT AND GENTLEMEN,—I must now pass from the realms of speculation as to the nature of the tabetic toxin and the therapeutic possibilities of the future to a more abstruse part of my subject—viz., to attempt to correlate the essential symptoms of tabes with their anatomical and physiological substrata. For then only can we be said to have constructed a complete pathology of a disease when we are able to refer each symptom to its organic basis. To do this, however, in the case of such a polymorphic disease as tabes is a vast undertaking and involves a wide and deep survey of the relations of the nervous system to almost every function of the organism—somatic, visceral, and trophic. For no disease exhibits such a complex symptomatology or puts to us such a host of neuro-pathological problems. On many of these problems I should despair of being able to say anything worthy of your attention which has not been said, and perhaps better said, by others before me. I purpose, therefore, to limit my survey of the physiological pathology of tabes to a few only of its more prominent symptoms in respect to which clinical and experimental research have lately been made and more or less suggestive or fruitful in results.

Of all the symptoms of tabes, ataxy is the most characteristic. All tabetics, however, are not ataxic, for some become blind from optic atrophy or suffer for years with excruciating lightning pains, bladder, and other visceral troubles without becoming ataxic. Some neuropathologists, with strange logical incoherence, regard the occurrence of optic atrophy as exerting a kind of inhibitory influence on the development of ataxic symptoms. All that is justified is that the ataxic and amaurotic forms of tabes are often more or less distinct though not exclusive of each other. Tabes is, as we have seen, essentially an affection of the sensory spinal protoneuron, whether in its ganglionic cell, peripheral or intra-medullary process, and in this we have to seek for an explanation of its most important symptoms. For all other changes, whether in the peripheral motor nerves, anterior cornua or bulbar nuclei, molecular layer of the cerebellum (C. Weigert), tangential fibres of the cortex cerebri (Jendrassik), or large cells of the post-central gyrus (Campbell) and their processes, are either inconstant or mere concomitants, if not the results of the primary sensory degeneration. The motor neuron is intact, the electrical reactions of the muscles are normal, and their dynamic strength is not necessarily impaired. The paths of impulse from the cortical centres are free from degeneration, and so also are the efferent tracts from the cerebellum by way of Deiters' nucleus, as well as the quadrigemino-spinal and rubro-spinal antero-lateral tracts from the mesencephalon. The lesion is therefore on the afferent or sensory side of the apparatus of movement. If it is possible to give a satisfactory explanation of tabetic ataxy by the demonstrable lesion of the centripetal paths to the spinal, subcortical (mesencephalic and cerebellar), and cortical centres, it would seem unnecessary, with Erb and others, to ascribe the ataxy to lesion of some hypothetical centrifugal tracts of motor coördination.

It is more than probable that certain ataxic, or, better, astatic, muscular disorders may arise from anomalies of excitation or irregularities in the transmission of impulses from the motor centres, such as are exemplified in multiple sclerosis, lesions of the tegmentum, and some other intracranial lesions. But these differ in all their essential features from tabetic ataxy and therefore need not occupy our attention further in reference to the question before us.

The degeneration of the centripetal tracts in tabes manifests itself in manifold abnormalities—perversion, retardation, diminution, or total loss—of sensory conduction in the domain of epicritic (tactile proper); protopathic (algesic, thermal); and deep sensibility, including all those factors—muscular, tendinous, articular—which form the basis of the sense of pressure and the complex muscular sense (Head). Associated with this from the commencement, and it may be throughout the whole course of the malady and dependent on some subtle bio-chemical or bio-physical processes into the arcana of which we have not yet been able to penetrate, are those repeated and violent storms, somatic and visceral, which torture and rack the unhappy patient. Whether these lightning pains and crises depend on changes in the peripheral nerves, as some observers (Gowers and others) are inclined to believe, or have their basis in the central processes of the spinal ganglion is uncertain and difficult to determine; but the fact that many of the subjective paræsthesiæ (such as the girdle sensation) and the objective signs of sensory impairment are to a large extent of a segmental or root distribution is, *inter alia*, in favour rather of the root origin of the tabetic neuralgia. And the fact that peripheral neuritis is relatively much less common in tabes than the lightning pains points in the same direction.

The impairment of cutaneous sensibility, epicritic, or protopathic, varies enormously in frequency, degree, and range, and there is no constant relation between the ataxic symptoms and the extent to which cutaneous sensibility is affected. It may even happen that there is no obvious affection of cutaneous sensibility to the most delicate tests. This is a valid argument against the sensory theory of ataxy as first propounded by von Leyden who at one time put too much stress on the impairment of cutaneous sensation. The impairment of cutaneous sensibility is more marked in its protopathic (algesic) than in its epicritic (tactile) form and is most common below the knees. Roughly speaking, the incidence of tactile (hyp-) anæsthesia corresponds with that of (hyp-) analgesia, though the percentage of the latter is much greater than that of the former.[2] It is quite otherwise, however, in respect to the relations between ataxy and impairment of the deep sensibility which, as has been shown by Sherrington and Head, is dependent on the nerves which run with the motor nerves and originate in Pacinian-like organs (muscle-spindles, Golgi organs, &c.) and are specially adapted to be influenced by pressure, muscular contraction, and change of position. From a third to a half of the nerves which are distributed to muscles are of this afferent type (Sherrington). Affections of this system of nerves reveal themselves subjectively in various ways, such as by insensibility to passive movements of the joints, inability to determine the exact position of the limbs or their segments, and defective sense of muscular contraction; these are individually affected with great diversity in different cases.

Frenkel holds that in every case of ataxy careful investigation, by precise methods calculated to eliminate all active muscular movements on the part of the patient, never fails to reveal a more or less extensive impairment of the sense of passive movements of the articulations; and that this is more pronounced and more widespread in the more ataxic limb, when, as is not infrequently the case, they are unequally affected. The loss of the sense of passive movements is, according to Friedländer, always manifested first in the toe-joints and tends to spread upwards to the higher joints with the increase of the ataxy. But the results of Golla's investigations at the National Hospital would lead me to question the accuracy of Frenkel's statements, for in a considerable percentage of cases of obvious ataxy he was unable to obtain any evidence of impairment of the sense of passive movements. And though it is the rule that this sense is more impaired in the more ataxic limb in the same individual, the rule is by no means absolute (Friedländer). And

[1] Lectures I. and II. were published in THE LANCET of March 31st (p. 881) and April 7th, 1906 (p. 961), respectively. The lecture was illustrated by lantern slides.

[2] I am making these general statements on the basis of a careful investigation of the affections of sensibility in 50 cases of tabes by Dr. F. L. Golla at the National Hospital for the Paralysed and Epileptic, who has kindly placed his results at my disposal.

t is a remarkable fact that the ataxic disorders vary enormously in different patients in whom to all appearances the affections of superficial and deep sensibility are alike. The muscles of the ataxic limbs are often tolerant of the severest pressure without discomfort. Closely related to this is the fact to which my attention has been called by Golla and which I have frequently verified—viz., that the sense of tonic or tetanic muscular contraction induced by the faradic current is greatly diminished or totally lost while the sense of minimal or rapid contraction is well preserved. This is at once capable of demonstration in cases in which there is already complete cutaneous anæsthesia and can in others be shown after preliminary cataphoresis of cocaine into the skin. Not infrequently both forms of musculo-contractile sensibility are diminished or lost but the two stand in no constant relation to each other, the sense of tonic contraction being by far the most frequently affected.[3]

Golla has luminously suggested that the loss of the sense of tonic contraction is the sensory side of the loss of reflex tonus which seems the leading feature of tabes, while the sense of quick contraction may be the sensory analogue of the quickly contracting elements of the muscle. This latter suggestion would be in harmony with the contractile nature of the muscle spindles which, as Sherrington has suggested, may function in signalling active rather than passive movements.

Another form of sensibility which is frequently impaired or lost in tabes is the sense of vibration (pallæsthesia) of a tuning-fork, first described by Egger (1899) and attributed by him to the bones or periosteum. But it can be perceived in parts where there are no bones (Rydel and Seiffer) and the continuity of bone is not necessary to its propagation (Minor). It is probably dependent principally on the deep sensibility which forms the basis of the perception of passive movements and the position of the limbs but it does not vary exactly with this (Déjerine, Marinesco, and myself), and its influence in respect to motor coördination is still *sub judice*.[4]

Of greater constancy and therefore of greater fundamental importance in the pathology of ataxy is the impairment or total loss of those centripetal impressions, which, arising chiefly in the muscles themselves, and acting on the spinal and subcortical (cerebellar) centres, are the basis of reflex muscular tone. This is shown in the loss of the so-called, but falsely so called, tendon-reflexes, of which the best known (since Westphal first called attention to it in 1875) and most commonly tested is the knee-jerk; though the Achilles jerk is of equal or even greater importance. Others also, usually obtainable in normal conditions, disappear as ataxy becomes more general. Associated with this is that remarkable condition of the muscles to which Frenkel has given the appropriate name hypotonia. This condition, so general in ataxy, had not altogether escaped the notice of von Leyden but it is to Frenkel that we owe a more precise knowledge of its characters and significance. The muscles are not necessarily flaccid to palpation but they permit an undue mobility of the limbs and trunk and do not develop resistance as antagonists when put on the strain like normal muscles. To this condition many of the characteristic attitudes of the ataxic, recumbent or erect, and the brusque over-action of the prime movers of the limbs in walking are largely due. Better than verbal description of this condition are the illustrations which I will now throw on the screen.

This condition was due, as I have said, mainly to the loss of the tonic action of the spinal centres, but it may in part also be dependent on failure of the similar tonic influence which Luciani in animals and Holmes and Grainger Stewart in man have shown to be exercised by the cerebellum. The loss of the cerebellar tone, however, is not associated with loss of the tendon-jerks and may exist when these are normal or even increased. The non-correspondence between the state of the knee-jerks after lesions of the cerebellum and spinal lesions with loss of tone made me at one time question the existence of Luciani's cerebellar atonia. I do not, however, doubt the reality of a condition to which perhaps the term is not altogether inappropriate.

The basis of this loss of tone and of the normal antagonistic counter-tension to active and passive movements is the degeneration of the reflex collaterals of the posterior roots to the anterior cornua and those to Clarke's columns, and thence indirectly to the cerebellum by way of the direct cerebellar tract. By the long fibres of the posterior columns in some measure and by other paths the position of which in the spinal cord is still the subject of considerable diversity of opinion and on which the last word has not yet been said, all the conscious impressions, or sensations proper, derived from the skin, muscles, and deep structures are conveyed to the cerebral centres or centres of perception. To discuss these, however, at greater length would be beyond the scope of the subject in hand. And it is not as yet possible to say for certain how much of the sensory loss in tabes is due to the affection of the posterior roots themselves, and how much to that of the intraspinal paths, or how much to both combined.

Tabetic ataxy is probably the complex result of blocking of all the forms of sensory impression, conscious as well as unconscious, more or less, and not of one kind exclusively. Ataxy may result from lesion of the sensory nerves alone, apart from any implication of the spinal tracts. This is well exemplified in the pseudo-tabes or *nervo-tabes peripherica* (Déjerine) which is not an uncommon result of the toxic action of alcohol, diphtheria, and other peripheral nerve poisons. So far as the ataxic symptoms are concerned these cases are not distinguishable from those of true tabes. The abnormalities of superficial and deep sensibility are similar; Romberg's symptom and incoördination of the limbs, intensified by shutting the eyes, are alike; the knee-jerks are absent, and though there are symptoms and signs which enable a differential diagnosis to be made, yet the two affections resemble each other so closely that they can be readily mistaken for each other.

As to the effects on movement of experimental section of the posterior roots, which means cutting off centripetal impressions of all kinds, conscious and unconscious, there has been some controversy of late. In the first instance at least, as has been known since Bell's classical experiment of section of the fifth nerve and illustrated by Mott and Sherrington in their experiments on the posterior roots of the brachial plexus in monkeys, there is an indirect paralysis—termed *centripetal paralysis* by Hering—in the related parts. This, however, as one might *a priori* expect from clinical observation in man, should only continue so long as the sensations from the anæsthetic limb had not been replaced or compensated by the eye. And in reality, as Munk, who has repeated Mott and Sherrington's experiments, has shown, even in monkeys the paralysis is only temporary and in course of time the animals learn to use the anæsthetic limb again. But, and this is the cardinal point, the movements of the limb are never normal but remain "brusque, excessive, and awkward" (*brusk, übermässig, ungeschickt*). This, though somewhat wanting in precision, is a fair description of an ataxic limb. And Bickel and Ewald found, after similar experiments on dogs, that the ataxic movements of the limbs, which tended in course of time to diminish, were re-induced when the animals were blindfolded or placed in a dark room, their limbs being rendered visible by luminous paint. The resemblance of these symptoms to those of ataxy in man is remarkable.

The spinal paths of afferent impressions include not only the reflex collaterals to the anterior cornua and Clarke's columns but also those of sensation proper to the cortex cerebri. It would seem almost impossible to dissociate these from each other, but yet such a thing apparently occurred in one case which has been put on record (Schüppel) so long ago as 1874. This was a case probably of syringomyelia

[3] Dr. Golla has furnished me with the following statement. In two cases there was no obvious ataxy of the arms or hypotonia while the legs were markedly hypotonic and completely anæsthetic and algesic, with nearly complete loss of the sense of position. In both these cases there was only very slight difference in the acuity of the sense of rapid muscular contraction, while both cases had lost the sense of tonic contraction of the legs and preserved it, little if at all affected, in the arms. I regard these two cases as of cardinal importance, as we were able to compare limbs deeply affected with limbs hardly at all affected either as regards ataxy or any other form of sensation or hypotonia. In seven other cases there was in all more or less marked depression of the sense of tonic contraction in the less affected limbs and complete absence in the limbs in which hypotonia and ataxy were well marked. In none of these cases was there any affection of the sense of rapid muscular contraction with the exception of two where all forms of muscular sensation were completely lost. That the sense of rapid contraction of the muscle does not depend on the cutaneous sensibility is shown in three cases where it was preserved with complete cutaneous anæsthesia. That the absence of the sense of tonic contraction is not a cause of loss of sense of position but rather a specific phenomenon of tabes, associated with the loss of the reflex tonus, and depression of the spinal reflexes, is suggested by two cases of ataxy following neuritis where it was preserved, though there was complete absence of the sense of position and of passive movement. In these cases tonicity had returned to the affected limbs.

[4] Dr. H. Head informs me that in his opinion it may be partly due to the rapidly repeated single shocks acting on the epicritic nervous system and therefore akin to the appreciation of simultaneous compass points.

and though the symptoms and post-mortem appearances have not been recorded with such fulness as we should consider necessary at the present day, yet it is one of great importance as showing that total interruption of the spinal paths of conscious sensation does not of itself cause ataxy proper. The case was that of a man who became completely anæsthetic to tactile, thermal, and painful stimuli; lost all sense of pressure and had no sense of active or passive movements of his limbs or joints; and yet, under the guidance of vision, could stand, walk, and execute all voluntary movements in a fairly normal manner. The cord lesion was a cavity occupying chiefly the grey matter, especially the posterior cornua and grey commissure. The anterior cornua were intact. Whether in this case the reflex collaterals were spared we cannot from the description say positively, but it is not improbable.

If we ascend higher towards the cerebrum we have no evidence of organic lesion strictly limited to the paths of sensation, apart from those of motion, either in the mesencephalon, internal capsule and optic thalamus, or higher. And though in such cases certain so-called hemiataxic disorders of movement may be observed, probably, in part at least, dependent on impaired transmission of sensory stimuli, they are in many respects quite unlike tabetic ataxy. The only conditions which enable us to eliminate the influence of true perception on the coördination of movements are, *inter alia*, cases of functional anæsthesia. These are usually hysterical and mostly unilateral, and the symptoms are so equivocal and contradictory of each other that they do not afford a safe basis on which to build. It is sufficient to say that in functional cerebral anæsthesia, notwithstanding the apparent total loss of all kinds of sensation, cutaneous and deep, coördinated movements of great complexity may still be affected under the guidance of vision, actual or ideal. That clear consciousness of kinæsthetic impressions is unessential is proved by the phenomena of sleep-walking and other states in which the functions of the highest centres are for the time in abeyance. The general result of this analysis is that tabetic ataxy depends on impairment or loss of centripetal impressions of all kinds, conscious as well as unconscious, and of these those from the deeper structures (muscles, tendons, joints) are more important than the superficial; and if one may single out class as more essential than the others of the complex, I would specify those to the spinal, subcortical, and cerebellar centres.

Vision can more or less completely compensate for loss of kinæsthetic sensation, and largely also, but to a much less extent, for the loss of the purely afferent impressions to the spinal and cerebellar centres. In the absence of vision all the disorders of coördination, static and dynamic, are greatly intensified, and this is the pathognomonic feature of tabetic ataxy.

The constitution and connexions of the spinal and subcortical centres provide for the combined action of the various muscles (prime movers, synergics, antagonists, and collaterals) concerned in simple and complex coördinated acts—e.g., the synergic extension of the wrist in closure of the fist, and the combined flexion of the thigh, leg, and dorsiflexion of the foot of the swinging leg in walking. This is proved by the perfectly coördinated movements which occur in decapitated animals in response to various external and internal stimuli and by the similar phenomena that can be elicited by stimulation of the posterior roots after transection of the cord in monkeys (Page May). The afferent path evokes discharge only of harmoniously related muscular groups. If it be stimulated strongly the number of motor groups excited may be extensive and their situation involve the whole length of the spinal axis; but the groups excited contemporaneously are always harmoniously acting groups—e.g., flexors of hip with flexors of knee, and not groups mutually subversive of each other's action. Each individual muscle of each group, so far as analysed, seems in its action balanced and subordinated as in a "natural" movement (Sherrington).

The conscious accompaniments of muscular action, both in the process of learning and throughout life, play a more important rôle in human actions in all their manifold diversity than in the more simple activities of the lower animals and their removal, potential or real, exercises a greater disturbance of the whole mechanism. But the mechanism is not formed by conscious activity—it already exists.[5]

In volition or action conditioned by conscious discrimination the cortical act through the spinal centres but in the cortex there are greater differentiation and power of dissociation than in the spinal cord, so that individual movements, if not individual muscles, can be isolated from their usual synergists. Thus we can voluntarily flex the fingers without extending the wrist. But our powers in this respect are limited and we can only eliminate such synergists and collaterals as we are clearly conscious of, while others, to which our attention has not been specially called, coöperate as usual and their action comes to us almost as a revelation when it is pointed out.

How the cortical motor centres act on those of the spinal cord, whether directly through the pyramidal tracts or indirectly through association cells (Gad, von Monakow, Beevor) or through the same channels as the reflex collaterals (Schäfer), is at present a matter only of speculation. But if, as Schäfer contends, the fibres of the pyramidal tracts arboresce not around the cells of the anterior cornu but around those of Clarke's columns and at the base of the posterior cornu, then the hypothesis that the cortical centres act through the same channels as the reflex collaterals would be the most probable. For the phenomena of ataxy and pseudo-ataxy clearly demonstrate the necessity of kinæsthetic impressions to secure the due coöperation of the synergic, antagonistic, and collateral muscles with the prime movers in any given movement. It would appear from the researches of Sherrington and Hering that the innervation of a given muscle *ipso facto* inhibits its true antagonist, so-called *reciprocal innervation*. This is well exemplified in the case of paralysis of the internal rectus of the one eye—say, the left. On innervation of the lateral conjugate movement to the right the divergent strabismus of the left eye diminishes and the eyeball swings up to the middle line, owing to inhibition of the tone of the unantagonised external rectus.

The simultaneous removal of all obstruction to the unfettered action of a muscle, implied in the law of reciprocal innervation, may be regarded as a useful provision, but it is a law subject to being overruled by the varying necessities of the case and the effects desired. Thus in sudden extension of the forearm the flexors are inhibited, but in extension of the forearm against gravity the flexors are obviously in action as well as the extensors. And as Duchenne, Richer, Demeny, and others have demonstrated, the action of the true antagonists is in manifold ways brought into play to moderate and to steady that of the prime movers.

The essence of ataxy in all its manifestations is the loss of, or impaired transmission of, the kinæsthetic impressions to the spinal, subcortical, and cerebral centres on which the graduated and harmonious coöperation of all the muscles concerned in our various actions depends. To analyse these in detail, however, would take a volume. Nothing could be more admirable in this respect than the masterly analysis of tabetic disorders given by Förster in his work on the "Physiology and Pathology of Coördination" (1902).

One of the most characteristic features of tabetic ataxy is the overaction of the prime movers. This is manifested in almost every form of voluntary movement. It is most marked when there is also impairment of conscious sensation in the limbs. It is no doubt largely due, and has been attributed almost exclusively, to the defective sense of movement achieved, so that the patient has no guide to the inhibition of further motor innervation. Hence, especially when his eyes are shut, he continues the action beyond what is required and is himself astonished when he sees how far he has overshot the mark. But this is not all, nor is it the most important factor in the sudden and immoderate character of the prime movements of the ataxic. This consists in the hypotonia and default of the afferent impressions which normally secure the development of the reflex resistance of the antagonists. The recumbent ataxic, therefore, when told to lift his foot from the bed does so

[5] It has been said by Förster that in the newly born infant the synergic extension of the wrist on reflex closure of the fist does not occur and that it only becomes developed as the result of cerebral selection. I should seriously question the accuracy of this statement. For though it is difficult, as I have found, to be certain of the simultaneous action of the extensors of the wrist in the reflexly excited closure of the fist in newly born infants, I have occasionally observed it and Dr. Beevor informs me he has done the same. And it would be difficult to explain the extraordinary power of grip possessed by newly born infants without assuming that the extensors of the wrist were acting synergically at the same time. For infants only a few hours old, as Louis Robinson has shown, can hang on to the finger or a small stick and sustain their whole weight for several seconds, a power which increases for several weeks after birth. Certainly the synergic extension of the wrist becomes manifest long before the child can have developed it by conscious selection.

with abnormal energy and brusqueness, because the extensors of the thigh fail to develop the resistance necessary to moderate the action of the flexors. So, also, the collateral muscles fail to steady the limb, so that it swerves from the direct line or oscillates in various directions about the mark aimed at. The default of the centripetal spinal and subcortical impressions is exemplified in many other ways. Even in the recumbent attitude the limbs of the ataxic exhibit abnormalities of position. The legs are rotated outwards or inwards from defective reflex tone of the inward or outward rotators of the thigh, and in particular the foot assumes the equino or equino-varus position from defective tone of the dorsiflexors.

When the leg is used as an instrument of progression the "impulsive association," as Duchenne expresses it, or the synergic combination of the flexors of the thigh, flexors of the leg, and dorsiflexors of the foot is dissociated, so that the dorsiflexion of the foot fails to occur and the toe tends to drag on the floor. This defect is corrected under the guidance of the eye, but it is generally overdone. So, also, when the foot is again planted on the floor it not uncommonly becomes inverted or everted, from failure, as Förster points out, of the reflex tone either of the peroneus brevis or tibialis posticus, by the joint action of which the sole of the foot is kept in the normal middle position. Similarly, when ataxy invades the arms we see dissociation of the synergic extension of the wrist from the flexors of the fingers, so that the wrist bends and the grip is thereby rendered feeble and ineffective. When the patient stands up he has difficulty in maintaining his balance owing to the failure of the centripetal impressions which are necessary to excite the muscular adjustments innervated by the cerebellum. Here the loss of conscious sensation when present adds greatly to the difficulty, for blunting of the sensibility of the soles of the feet even by itself, as has been proved experimentally by Vierordt and Heyd, renders the maintenance of equilibrium very unsteady. So long as vision is unimpeded and the vestibulo-cerebellar centripetal impressions are operative standing is possible on a wide base; it is more difficult as the base of support is narrowed; and is altogether impossible when the eyes are shut. When the patient sits down, instead of doing so gently with graduated flexion of his trunk, thighs, and legs, he bumps down on his seat owing to defective reflex antagonistic tone of his quadriceps extensors. When he endeavours to maintain his equilibrium, and also to walk, he assumes attitudes and makes compensatory movements which are almost pathognomonic. Thus, if alone and unsupported he will walk with a constrained gait, his legs over-extended and knees recurved (so as to prevent the sudden giving way of the legs so well described by Buzzard), his body bent forward, and with his eyes steadfastly watching his feet. But his actions vary with the conditions under which he is placed. For the same patient, if supported on both sides and thus saved from the necessity of attending to his equilibrium, will throw out his legs and dorsiflex his feet with excessive energy and set them down again with equal brusqueness, stamping his heels on the floor. Throughout all the same purpose runs. It is the attempt, clumsy at best, by conscious effort to make up for the failure of a self-adjusting mechanism which under normal conditions works better without conscious interference. Clumsy though it be, however, the best treatment that has been hitherto devised for the palliation of ataxy is the assiduous cultivation and judicious direction of these conscious efforts at compensation in accordance with the rules laid down by Frenkel and Förster.

THE TABETIC PUPIL.

One of the most important signs of tabes is the condition of the pupil first described by Argyll-Robertson in 1869 and known universally after his name. It is scarcely necessary to say that this consists in the loss of the reflex contraction of the pupils to light, while that on convergence and accommodation remains. The frequency of the Argyll-Robertson pupil in tabes was first noted by Erb, as well as the usually associated loss of the reflex dilatation to sensory or psycho-sensory stimulation. The reflex iridoplegia is not always present, nor is it always absolute, there being frequently only sluggish reaction instead of total absence of contraction to light. But it is so frequent—in general about three-fourths of the cases—and so characteristic that the other symptoms of tabes must in its absence be well marked to allow of a definite diagnosis of tabes to be made. Sometimes it is unilateral, or more marked in one eye than the other. It is in a large proportion of cases associated with myosis, so that a peculiar appearance is given to the eye of almost a pathognomonic character. But myosis is by no means universal: sometimes the pupils are of medium size or even larger than normal, and they may be unequal. The essential and characteristic feature of tabes is the reflex iridoplegia. This rarely passes into absolute iridoplegia. This, however, sometimes occurs unilaterally but it is then more probably due to a local syphilitic affection. Absolute iridoplegia, however, occasionally gives way to reflex iridoplegia. The outline of the pupil also generally undergoes change and this not infrequently precedes the loss of light reflex. The tabetic pupil is rarely quite circular and it is often excentric in position.

What has been said of the pupils of tabes is true also of those of general paralysis, but here they are more often unequal in size. Reflex iridoplegia once complete is incurable but occasionally when incomplete the reaction may return. It may exist for many years (Erb) without any other obvious symptoms either of tabes or general paralysis. Usually it is associated with lymphocytosis of the cerebrospinal fluid but, as I have found, this is not invariable. But one may say with Bumke that a permanent isolated reflex iridoplegia occurs only in tabes, general paralysis, and as a consequence of congenital or acquired syphilis; while the cases in which, as a residuum of absolute iridoplegia, a condition remains which is not distinguishable from the Argyll-Robertson pupil are so rare that they may be practically neglected. The general result, therefore, if we consider the syphilitic origin of tabes and general paralysis as proven, is that reflex iridoplegia is always a result of syphilis.

The pathology of the Argyll-Robertson pupil is a subject of great difficulty, for we are still far from possessing a complete knowledge of the mechanism of pupillary variations. The pupil varies in size not merely under conditions of illumination and accommodation but with the intraocular tension and fulness of the vessels of the iris; it contracts with the orbicularis oculi, dilates under the influence of sensation and emotion, and varies with psychical activity in a manner extremely difficult to analyse. We do not yet know for certain whether the retinal elements which subserve light sensation are the same as those which excite the reflex pupillary contraction. There are conditions of the retina in which vision may be affected and the light reflex continue and *vice versâ;* and Schirmer concludes from pathological conditions that the para-reticular or amacrine cells of the inner granular layer are the special centripetal organs of the light reflex. Whether this is well founded or not is a question but both anatomical and clinical facts point to a differentiation in the optic nerve between the fibres conveying light impressions and those which excite the pupillary reflex. In man, as in all animals with semi-decussation of the optic nerves, the centripetal reflex pupillary fibres undergo also partial decussation. Hence lesion of the optic tract, as in Wernicke's well-known hemiopic test, not only causes contralateral homonymous hemianopsy but also loss of the light reflex from the corresponding retinal halves.

In front of, or in the immediate neighbourhood of, the corpus geniculatum externum, the centripetal pupillary tracts separate from those which form the optic radiations and pursue their course towards the oculo-motor centres. But what this course precisely is is still a vexed question. That the pupillary and other oculo-motor reflex centripetal paths do not pass through the vault or tectum of the corpora quadrigemina is evident from the results of experimental lesions of these ganglia in monkeys, as described by Aldren Turner and myself. After such lesions the reaction of the pupils was intact, and many cases have been related of tumours invading the corpora quadrigemina without affecting the pupillary reflex.

It has been held by some that the fibres of Meynert's fasciculus retroflexus which courses, internal to the red nucleus, from the ganglion habenulæ towards the base, is the centripetal reflex pupillary path, and that therefore a lesion of this tract would cause reflex iridoplegia. But no such lesion has ever been demonstrated in the reflex iridoplegia of tabes and von Monakow has observed destruction of Meynert's fasciculus retroflexus without any affection of the pupillary reflex. Moreover, after extirpation of both eyeballs this tract remains free from degeneration. The probability is that there is no direct connexion between the centripetal optic paths and the oculo-motor centres, but that the connexion is indirect, though intercalary or association cells, which again form synapses with the oculo-motor nuclei. But these and their respective relations to

the centripetal reflex paths from each eye are matters more of hypothesis than of actual demonstration.

In order to account for the various disorders that may be observed in reflex pupillary innervation the diagram on the screen has been suggested by Bumke. This shows how hemiopic, as well as unilateral or double reflex iridoplegia, may occur according to the position of the lesion. But it has been said the only verified basis of this scheme is Wernicke's hemiopic pupillary reaction from lesion of the optic tract. No lesion in the central grey matter of the aqueduct of Sylvius has been established in connexion with the tabetic pupil, though Moeli has reported a case of tumour compressing the hinder wall of the third ventricle in which reflex iridoplegia was said to have been present.

Whether in the conglomeration of nerve cells which constitute the nucleus of the third nerve there is an isolated group presiding over the movements of the iris or whether the iris is represented more or less diffusely along with the various muscles with which it acts in association is not as yet positively determined. The experiments of Hensen and Volkers, however, are in favour of the centres of the iris and ciliary muscle being in the anterior part of the oculo-motor nucleus and their nerves in the most anterior roots of the third nerve.

Bernheimer maintains, mainly on the results of experiments on monkeys, that the centres for the sphincters of the pupils are situated in the paired, small-celled nucleus termed the Edinger-Westphal nucleus. He states that the cells of the corresponding nucleus show degenerative changes after enucleation of the eyeball, that unilateral destruction causes reflex iridoplegia in the corresponding eye, and that electrical irritation of this nucleus causes contraction of the pupil of the same side. Bernheimer's experiments have been subjected to searching and destructive criticism by Bach and they certainly appear to me far from convincing. They are opposed to many recorded and carefully investigated clinical cases. Thus von Monakow has observed cases of total ophthalmoplegia, external and internal, in which there was complete degeneration of all the cell groups of the oculo-motor nerve, with the exception of the Edinger-Westphal nucleus. And conversely, the Edinger-Westphal nucleus has been found destroyed without impairment of the pupillary reaction (von Rad's case quoted by von Monakow). As against the localisation of a definite circumscribed centre for the sphincter pupillæ is also the fact that the action of the pupil is usually unimpaired in ophthalmoplegia dependent on acute lesion of the oculo-motor nuclei (polio-encephalitis superior).

A strictly limited lesion of one particular cell-group of the oculo-motor nucleus has never been demonstrated in man in relation with reflex iridoplegia or ophthalmoplegia interna. Marina, who has investigated many cases of reflex iridoplegia in tabes, has uniformly found the Edinger-Westphal nucleus normal. The pupillary fibres of the third nerve do not directly pass to the sphincter pupillæ, which is an involuntary muscle, but indirectly, by the short root of the ciliary ganglion, with the cells of which it forms synapses, and thence by the short ciliary nerves to the sphincter. In reflex iridoplegia no lesion has ever been demonstrated in the trunk of the third nerve. Complete transverse lesion of this nerve, in addition to the paralysis of the external muscles which it innervates, causes dilatation and complete immobility of the pupil both to light and convergence—absolute iridoplegia. It is, however, to be observed that less complete lesion of the third nerve may produce external ophthalmoplegia without affecting the pupil. Many such cases are on record. Cushing has reported three cases in which the third nerve was accidentally injured in the operation for excision of the Gasserian ganglion, in which there was temporary total paralysis of the external ocular muscles, while the pupil remained unaffected, reacting normally to light and accommodation.

From this brief review of our knowledge respecting the reflex pupillary arc it is evident that there is still great obscurity as to its precise constitution and that, though theoretically reflex iridoplegia may be explained by interruption of certain hypothetical centripetal paths of the light reflex, no actual pathological changes have as yet been demonstrated in the reflex iridoplegia of tabes. The frequent association of reflex iridoplegia with degeneration of the cervical region of the cord has led several observers—notably Flieger and Förster—to place the centre for the light reflex in this region. But it is obvious that in tabes the loss of the light reflex and degeneration of the posterior columns need not be causally related to each other. And the medulla has been found normal in two cases of general paralysis with iridoplegia (Marina); and in a case of congenital Argyll-Robertson pupils by Reichart. Degenerations of the posterior columns otherwise than tabetic have also been found by various observers with normal reaction of the pupils. This is notably the case in Friedreich's disease, in which there is no abnormality of the pupillary reactions. Bach, however, who at first was inclined to place the centre of the light reflex in the cervical cord just below the medulla oblongata, in his more recent work relates various experiments made in conjunction with Meyer, which led him to believe that at the spinal end of the medulla oblongata, near the respiratory centre there is an inhibitory centre of the light reflex to which the reflex centre of the corpora quadrigemina is subordinate, and, in addition, in close proximity, there is another centre inhibitory of the reflex dilatation of the pupil.[6] That such a complicated mechanism, which reminds one of the cycles and epicycles of the Ptolemaic astronomy, is needed to explain the facts is in the highest degree improbable; and that the reflex iridoplegia of tabes, often of years' duration, can be explained by persistent irritation of these hypothetical inhibitory centres of pupillary action has little in its favour.

Of all the investigations on the pathology of the tabetic pupil in recent years those of Marina appear to me the most suggestive. Marina has investigated, by the most approved modern histological methods, 13 cases of general paralysis with normal pupils, 23 cases with Argyll-Robertson pupil, five cases of tabes, and 29 other cases with normal or abnormal pupils. In all the cases of tabes and general paralysis with the characteristic pupils he found signs of degeneration in the ciliary ganglia and short ciliary nerves. If the pupils were normal the ciliary ganglia were also free from degeneration. In one case of unilateral Argyll-Robertson pupil the ciliary ganglion of the affected eye was profoundly altered, while that of the other eye was practically normal. The changes in the ciliary ganglion in tabes are of a chronic character and consist in a gradual wasting of the nerve cells, with chromatolysis and distortion of the nuclei. Degeneration of the short ciliary nerves was constantly found and apparently secondary to that of the ganglion cells. The roots of the ganglion were always found normal; so also, with one exception, were the oculo-motor nerves, the oculo-motor nuclei, the Edinger-Westphal nucleus, that of Darkschewitch, as well as the grey matter surrounding the aqueduct of Sylvius. Besides the ciliary ganglion the Gasserian ganglion showed degenerative changes in three out of 16 cases of general paralysis, and in three out of four of tabes. The superior cervical ganglion also showed degenerative changes in two out of four cases of tabes, while in general paralysis one-third only exhibited degeneration, the other two-thirds being doubtful or normal. The results obtained by Marina are evidently of the utmost importance in reference to the pathology of the tabetic pupil.

The physiology of the ciliary ganglion is still very imperfectly understood. That it is not an independent centre for the pupillary reflex is evident from the fact that the pupil is quite immobile when the third nerve is completely severed. Anderson holds that the cells of the ciliary ganglion are purely of the sympathetic type and that most of them are of this character is also held by Marina. But the ciliary ganglion has three roots, the short or motor root from the third, the long or sensory root from the fifth, and the sympathetic root from the carotid plexus. The long ciliary nerves

[6] The facts on which Bach bases his hypothesis are as follows: 1. Total division of the cord several millimetres caudally from the fourth ventricle causes no change in the pupillary reaction. At the moment of section there is a temporary dilatation of the pupils, after which the light reflex can be elicited as before. 2. Bilateral section of the medulla at the spinal end of the fourth ventricle at a definite level (see diagram No. 3) causes immediate immobility of both pupils to light. 3. Unilateral division of the medulla at the same level on the right side produces not a right-sided but a left-sided reflex iridoplegia. 4. Exposure of the medulla with its mechanical and other irritation generally suffices to cause the disappearance of the light reflex or absolute iridoplegia. With this there is marked mycsis and often inequality of the pupils. This fixity of the pupils even after persisting from one quarter to one hour at once disappears and is replaced by prompt reaction of the pupils when a section is made through the middle of the fourth ventricle or at higher levels. This prompt reaction lasted in one case for a whole hour. 5. Unilateral division of the medulla at the middle of the fourth ventricle and brainwards therefrom renders the previously sluggish or absent light reflex again evident. The persisting inhibition can be counteracted by cocaine or the action of ether.

which come from the fifth and which supply the dilator of the iris do not go through the ciliary ganglion. Anderson has not been able to trace any degenerated fibres in oculo-motor, fourth, fifth, or sixth nerves after extirpation of the ciliary ganglion in the cat. If, therefore, he says, cells comparable with the cells of the posterior root ganglia are present in the ciliary ganglion they must belong to a type of cell not yet demonstrated and send non-medullated processes to the central nervous system. On the other hand, Marina has observed degeneration in some of the cells of the ciliary ganglion, probably of a sensory type, after lesions of the cornea. And Bumm finds that the number of cells which remain intact after section of the short ciliary nerves is again reduced by extirpation of the superior cervical ganglion. A considerable number, however, still remain, some of which at least appear to be connected with the fifth. The ciliary ganglion would therefore, if these observations are correct, appear to be a complex structure. That some of the sympathetic fibres which supply the dilator of the pupil pass into the ciliary ganglion by way of the sympathetic root from the carotid plexus instead of all going by the long ciliary nerves as is commonly held is, I think, probable. For though division of the ophthalmic branch of the fifth, as Turner and I have demonstrated in monkeys, causes contraction of the pupils from paralysis of the dilator, this effect is only of temporary duration, lasting usually only a week or so. And in man, as I have ascertained, after extirpation of the Gasserian ganglion for inveterate trigeminal neuralgia the pupil does not remain permanently affected but contracts and dilates as under normal conditions. This is very different from the state of the pupil after division of the dilator fibres as they emerge from the upper dorsal roots. Even years after this lesion the pupil remains smaller and the eyeball sunk as compared with the other. Nor does cocaine cause dilatation as in the normal pupil except in relatively very large doses. There must, therefore, be some other path for the dilator fibres of the iris than the long ciliary nerves and it is probable that they go through the ciliary ganglion by the sympathetic root of the carotid plexus. The ciliary ganglion, as Langley and Anderson have shown, is like sympathetic ganglia in general, capable of being paralysed by nicotine, so that impulses to the sphincter pupillæ are blocked and ineffective while direct irritation of the short ciliary nerves causes contraction.

The question is whether the degeneration found by Marina in ciliary ganglia in tabes, taken in conjunction with what we know of the physiology of these structures, throws any light on the pathology of the tabetic pupil. In this relation the researches of Piltz appear to me to be of great significance. Piltz calls special attention to the fact, to which I have previously alluded, that the pupils in general paralysis and tabes commonly exhibit irregularities of outline, being angular, jagged, or otherwise mis-shapen and not infrequently excentrically situated instead of having the smooth, circular contour and central position of health. This condition often precedes the development of the Argyll-Robertson pupil and Joffroy and Schraneck maintain that every alteration in the form of the pupils—congenital anomalies and synechiæ excepted—even though the light reflex may be retained, signifies that we have to deal with general paralysis, tabes, or syphilis, and that the semiological value of irregularity of the pupil is not less than the Argyll-Robertson phenomenon itself, which it often precedes. This is also the opinion of Babinski, Piltz, and others. After complete exposure of the ciliary ganglion and the ciliary nerve of the dog and irritation of various twigs of the short and long ciliary nerves Piltz produced irregularities in the outline of the pupil and in its position, such as are indicated in the diagram on the screen. The similarity of these appearances to those of the pupils in tabes and general paralysis is obvious and seems to justify the conclusion that these abnormalities are indications of irritation, paresis or paralysis of different portions of the iris due to pathological changes in the long or short ciliary nerves or their ganglia. It has also been shown by Dupuy-Dutemps that in the Argyll-Robertson pupil the inner margin of the iris instead of having the normal cushion-shaped outline on section is extremely attenuated. This atrophy of the iris may be general or in cases where the pupil is irregular it may affect only certain segments of the iris. This atrophy is undoubtedly due to affection of the short ciliary nerves. It is difficult to conceive how such irregularities of the pupil could be produced by any central lesion, and seeing that they so often precede the reflex iridoplegia of tabes the presumption is strong that both phenomena have essentially the same anatomical basis—viz., degeneration of the ciliary ganglia and short ciliary nerves.

Piltz's experiments enable us to understand the irregularities in the outline of the pupils, but how can we explain the loss of the light reflex with the retention of the contraction or accommodation? We can, I think, cite analogous facts. We know that different nerve fibres in the same trunk may be differently affected by destructive or toxic agencies. The extensor muscles are principally affected in the peripheral neuritis of alcohol, lead, and arsenic, and pressure on the recurrent laryngeal first affects the abductor nerves of the larynx. Langley and Anderson have shown that nicotine paralyses the sphincter of the pupil and ciliary muscle long before causing paralysis of the external ocular muscles, and we know that the toxin of diphtheria may affect the ciliary muscle alone, leaving the actions of the pupil and the external ocular muscles intact. It has also been mentioned that partial lesions of the trunk of the third nerve may cause ophthalmoplegia externa without impairing the action of the pupil. And total ophthalmoplegia interna due to syphilis may, under antispecific treatment, give way to a condition merely of reflex iridoplegia.

There is therefore nothing improbable in the assumption that in tabes the ciliary ganglion and ciliary nerves are so affected that though they cannot transmit the reflex impulse of light to the sphincter pupillæ they can readily allow the more powerful stimulus associated with accommodation to pass through. It is also probable that the myosis, which is so commonly associated with the reflex iridoplegia in the tabetic pupil, is due to degenerative changes of an irritative character which are going on in the sphincter. In a similar manner may be explained the absence of the dilatation which normally results from sensory or emotional stimuli. The dilatation of the pupil, which occurs under such conditions, is practically independent of the cervical sympathetic and may be observed, though to a less extent, when this nerve is divided. This was first noted by Vulpian and has been verified by Bumke as well as by myself in cases of lesions of the dilator roots of the cervical sympathetic. And in tabes the dilator of the pupil is not paralysed, for under the influence of cocaine the pupil enlarges as in the normal state and all the irregularities of its contour become accentuated.

Psycho-reflex dilatation is due, accordirg to Braunstein, to inhibition of the oculo-motor nucleus acting through the third nerve and therefore through the ciliary ganglion, for it does not occur in oculo-motor paralysis. Therefore, though the exact mechanism may require further elucidation, the probability is that the condition which blocks the path of reflex pupillary constriction blocks also that of psycho-reflex dilatation, and that in the degeneration of the ciliary ganglion we have the explanation of the tabetic pupil.

If time had permitted I might have offered some considerations on the pathology of the disorders of innervation of the bladder, visceral crises, arthropathies, muscular atrophies, and some other notable symptoms of tabes; but I found, as I filled page after page on the question to which I have devoted these lectures, that it would be impossible for me to deal effectively with them all, and it seemed to me better to discuss a few points with some fulness of detail than to range cursorily over the whole field. Such as I have chosen I might have treated at much greater length, but I shall be glad if I have succeeded in showing that in such a well-worn subject as tabes there are still many problems of surpassing interest and worthy of further diligent study and research.

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MEDICAL GOLF TOURNAMENT.—The annual medical golf tournament will this year be held on Thursday, May 31st, at Cassiobury Park, Watford, by kind permission of the West Herts Golf Club. The tournament will be played under the usual conditions—viz., match play of 18 holes *v.* Bogey—in two classes: (1) handicaps of 12 and under; (2) handicaps over 12. Foursomes will also be played for sweepstakes. Competitors must send in their names by May 30th, with lowest club handicap and 5*s.* entry fee, to the Honorary Secretary, Mr. Rolf Creasy, Windlesham, Surrey.

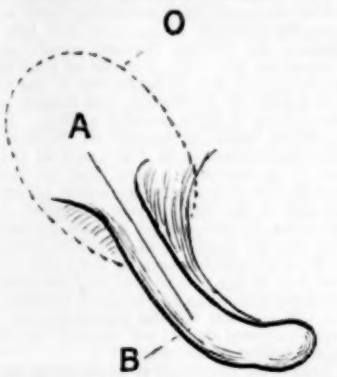
ON APPENDICOSTOMY AND ON APPENDICÆCOTOMY AS A SUBSTITUTE FOR CÆCAL COLOTOMY:

APPENDICOSTOMY AND ENTEROSTOMY IN THE TREATMENT OF TYPHOID FEVER.

BY C. B. KEETLEY, F.R.C.S. ENG.,
SENIOR SURGEON TO THE WEST LONDON HOSPITAL.

IN the past winter I have had the opportunity of using the appendix as a spout for giving egress to fæces in a case in which it would otherwise have been necessary to perform a cæcal colotomy. In a case under the care of Dr. James Crombie[1] mentioned by me in a former paper appendicostomy was performed partly with this object. In all other published cases of appendicostomy the operation has been performed wholly for the purpose of admitting the injection of fluids into the large intestine. The question was, Could the appendix be sufficiently dilated? I felt almost sure it could because I have seen it so dilated by pus, by large concretions, and by intussusception of the appendix.

In the case which I am about to relate I was a little discouraged at first by finding a very slender appendix, one that seemed, in fact, atrophied. Accordingly, on Dec. 21st, 1905, I operated in the following manner so as to be prepared for possible non dilatability of the appendix. Drawing an imaginary oval line (O) on the cæcum and around the base of the appendix, with the latter occupying an eccentric position in the oval, I stitched this oval line to the margin of the parietal peritoneum near the lower angle of the wound. (See illustration.) I then brought the appendix obliquely through the substance of the abdominal wall in the parietal



incision which was otherwise closed by sutures in layers. The wall was very thin, the patient being emaciated, with very little muscle and no fat. I intended, if I found the appendix not sufficiently dilatable, to cut its mucous membrane with a bistoury or hernia knife in such a manner that if the appendix split open it would give way in the line A, B. The result would, of course, be the performance of what might be termed an "appendicæcotomy"—i.e., an opening partly in the appendix and partly in the cæcum, but altogether outside the stitched off peritoneal cavity, though overlapped by skin and fascia. However, the next day I had no difficulty in stretching this appendix to the size of a small rectal tube, and for three months the fæces passed through it, the intestinal obstruction, which was due to a large malignant growth obstructing the transverse colon, being completely relieved. The patient had carcinoma of the stomach with some infection of the general peritoneum (malignant nodules were seen on the peritoneum and adhesions were felt matting the parts together above, and to the left of, the umbilicus and beneath the left rib cartilages). Within 48 hours the greatly distended abdomen had emptied itself through the appendix, assisted by warm water

[1] Brit. Med. Jour., vol. ii., 1895, p. 863.

enemata. More recently some fæces have passed per rectum. This patient's abdomen was explored last summer and the carcinoma of the stomach was found but was too advanced for removal. A friend of mine performed a jejunostomy by Mayo Robson's method but as the patient could still take food by the mouth she allowed the jejunostomy opening to close. I reopened it on the morning of the day on which I performed the appendicostomy and she was, to a great extent, nourished by what passed between the jejunostomy and the appendicostomy. Still she took some food by the mouth, both solid and liquid, and efforts were made to keep the large intestine properly supplied with water either by the rectum or through the appendix. The nurse found it most convenient to keep both the appendicostomy and the jejunostomy tubes permanently *in situ*, as the patient complained when they were replaced. Some cutaneous irritation complicated the jejunostomy opening but none the appendicostomy. There was no excoriation whatever, such as is apt to occur with ordinary cæcal fistulæ.

This patient was, and remained, under Dr. J. A. Shaw-Mackenzie's trypsin treatment. Having regard to the advanced stage of the case she held her own in a marvellous way and she was free from pain except what was attributable to distension by ascites. Death came, from exhaustion, three and a half months after the appendicostomy. (I have mentioned that the peritoneum was found to be affected at the time of operation. In February I drew off 150 ounces of ascitic fluid.)

This is, so far as I know, the first case in which the appendix has been continuously used as a spout through which to *evacuate fæces*. It was for this purpose that I suggested that the appendix should be used at a debate on cæcal colotomy at the Medical Society of London 11 years ago.[2]

After Sir William H. Bennett's friendly references to my paper in his recent lecture[3] I am afraid it will look ungrateful when I suggest a minor correction of his otherwise most able and suggestive remarks. Although Dr. R. W. Weir describes the appendix as presenting itself and inviting operation on the occasion of his first and now historical appendicostomy, Sir William Bennett should scarcely say that the operation was "the outcome of pure chance." I am sure he will be the first to agree that it was the outcome of Dr. Weir's surgical knowledge and insight and of his capacity for making a right decision swiftly. I have some experience which tends to support Sir William Bennett's remarks on appendicostomy as "a means of administering nourishment." It was used a good deal for that purpose during the first part of the after-treatment of the case just related and also in the case of intussusception reported by me in the paper of last August already quoted; but too much must not be expected of appendicostomy for this purpose. It is perfect for keeping the blood well supplied with water; but is any part of the large intestine of much value as an absorbing organ for the solid essentials of food? Bearing on this question are the experiments of Dr. W. H. Goddard which showed that 10 per cent. of the fat taken by the mouth is digested in the cæcum.[4]

With regard to my third case of appendicostomy (with Dr. James Crombie of Sidcup), referred to in the last paragraph of my paper of last August, although the appendix was found to be easily dilatable, it was happily not necessary to use it for the evacuating purpose for which it was partly intended, as, after copious hot water enemata with castor oil, the bowels were moved. They had not been opened for two months, the patient being in bed and under the observation of nurses all the time. When they were moved at last the motion was so large and the strain on the patient so great that the process almost resembled an act of parturition. It was feared at first that the convulsive efforts of the abdominal muscles, supported by the hands of the nurse, had torn the appendix away from the abdominal wall, but that proved to be a mistake. The appendix opening had merely retracted without breaking loose. This patient still uses her appendicostomy for injections, and, I think, occasionally for nutrient enemata.

THE DIRECT SURGICAL TREATMENT OF TYPHOID FEVER.

The most optimistic observer can scarcely deny that however skilfully it may be treated typhoid fever is a very serious disease—serious to the community as well as to the individual, serious not only from its fatality but from the multitude of evil consequences apt to follow it. Andrew Elliot and Washbourn[5] give the mortality in 262 South African cases as 13·7 per cent., in 15,632 "Asylums Board" cases as 18·44 per cent., in 2257 Worthing cases as 13 per cent., in the Maidstone cases of 1847 as 7·14 per cent., in Osler's Montreal cases as 11·2 per cent., and in his Baltimore series as 7·5 per cent. It is almost certain that these figures understate the death-rate. Most, if not all of them, take no account of the deaths which occur later from persistent or remote sequelæ and from undermined health or mental depression leading to serious affections which would otherwise have been escaped from. And can anyone doubt that when the medical men of a locality are hurried and worried by the overwork of an epidemic their diminished time for diagnosis and their mental prepossession leads to mild cases of diarrhœa with feverishness or even of appendicitis being mistaken for typhoid fever? When there is a really severe epidemic of influenza there is scarcely any independent disease which is not mistaken for influenza. Then, also, there are the suicides which follow typhoid fever.

As to complications and sequelæ, again quoting Elliot and Washbourn, I find that leaving out of account from 10 to 20 per cent. of relapses, hæmorrhage occurred in 6 per cent., phlebitis in 5·6 per cent., pneumonia in 3 per cent., pleurisy in 3 per cent., bronchitis occasionally, periostitis in 2·2 per cent., arthritis in 3 per cent., perforation in 2·2 per cent., cardiac complications (attributed by the authors to "previous fatigue"—i.e., before admission) in many cases, bladder trouble in 2 per cent., otitis media in 1·5 per cent., and pericarditis in 1 per cent., while there were many cases of dysentery, "tender toes," and malaria, and a few cases of abscess, gangrene, hepatitis, jaundice, and appendicitis. Of course, much of the mortality already mentioned was due to some of these complications—e.g., to the hæmorrhages and to the perforations. On the other hand, various well-known complications may occur besides those mentioned by Elliot and Washbourn—e.g., acute nephritis, pyo-nephrosis, splenic infarcts and abscesses, orchitis, neuritis, multiple neuritis and spinal troubles. And there is one danger to which I have never yet seen any reference but which is indubitable—viz., that of permanent injury to the ovaries and tubes due to pelvic complications. A girl, aged 11 years, while under treatment for typhoid fever developed peritonitis (probably due to perforation), resulting in suppurative peritonitis which involved the pelvis and both flanks. After operation and thorough drainage she recovered. This was 20 years ago. While still in her "teens" she married but though apparently in robust health she remained childless.

It is well known that the appendix vermiformis is occasionally affected in typhoid fever and that the appendix and the right uterine appendage are sometimes inflamed together.

To realise the seriousness of at least the surgical complications and sequelæ of typhoid fever it is necessary to be acquainted with them practically. A patient had multiple typhoid "abscesses," or at least foci of softening and pathological change in both tibias. The medulla of the two bones was more or less destroyed. After months of treatment he recovered and returned to his occupation as an actor, only to fracture one of these weakened bones the first time he tried to dance. The term "typhoid periostitis" conveys but a faint idea of what this poor fellow had to go through. And complications are liable to occur at long periods, even years, after the fever, so that the connexion is not always suspected.

Numbers of officers and men were more or less incapacitated for months or even years by post-typhoid phlebitis after the South African war. A friend who was a civil surgeon at one of the Aldershot hospitals during the war says that the suicides which followed typhoid fever contracted in that war were numerous. Men came home convalescent but depressed. One of my two resident dressers when I was a house surgeon afterwards contracted typhoid fever in India and shot himself dead while still depressed and weak.

As for complications of acknowledged gravity—e.g., perforation and hæmorrhage—I have had the opportunity of operating on three, perhaps I should say four, cases. One patient was a middle-aged lady with perforation. The hole

[2] THE LANCET, Nov. 17th, 1894, p. 1155.
[3] THE LANCET, Feb. 17th, 1906, p. 419.
[4] Chelsea Clinical Society, THE LANCET, March 25th, 1905, p. 795.
[5] THE LANCET, Jan. 18th, 1902, p. 139.

in the intestine was found at once and was closed with ease. The intestines were, however, adherent, inclosing various collections of pus and covered with lymph. The perforation was several days old. The peritoneal cavity was washed out with warm water (neutral saline solution had not been introduced as a douche in those days) and drainage was used. The patient was relieved of pain but she died within 24 hours. The typhoid fever had been diagnosed by the late Dr. J. S. Bristowe and Dr. Crombie, the perforation by the latter. This was the first case of perforating typhoid ulcer diagnosed before operation and operated on in these islands. It was on June 5th, 1888. Up to and after that date no such case had been successful anywhere. The case was not taken in time. Von Miculicz's solitary successful case was not diagnosed till after operation. The late Mr. Bartleet's attempt to operate on a typhoid perforation had been made, but the surgeon failed to find it.[6] In foreign countries Bontecue, Lücke, and Morton had each operated on a case in 1887, but without success. I have referred to the girl whose symptoms were subacute and who recovered. A third case was also a case under the care of Dr. Crombie. A middle-aged woman with severe typhoid fever and much exhausted (temperature 106° F.) showed signs of perforation and was operated upon on the next day. The last half-yard of the ileum contained the perforation and was so intensely congested and inflamed that I excised it. The patient died on the next day. At about the same time a patient was taken into hospital under my care but was operated upon by my assistant surgeon. The perforation was only a few hours old. The patient appeared to be doing well but on the following day she died from acute hæmorrhage. Excision of the lower end of the ileum would probably have saved this patient by removing the ulcer which afterwards bled; and, on the other hand, I did too much to my exhausted patient when I performed enterectomy. A simple suture of the perforation would have given her a better chance, though but a small one.

The question has for some years presented itself to my mind—Ought not typhoid fever patients to be operated on *before* fatal perforation and bleeding occur? Most of the typhoid ulcers occur within a yard of the ileo-cæcal valve. It is true that the typhoid bacilli are in the lymphatics of the intestine, in the glands, and occasionally in the blood, but gonococci penetrate the tissues deeply and yet are reached and killed by silver salts such as argyrol. Really no weighty argument can be urged against the local treatment of typhoid intestinal ulcerations except their comparative inaccessibility. How can they be made accessible? There are several ways. 1. In a certain proportion of cases the ileo-cæcal valve does not prevent large enemata—e.g., four or five pints—from entering the small intestine, and even passing upwards right through it. But this proportion is very small. The patient would possibly have to be placed on his hands and knees—a position exhausting or even impossible to many typhoid cases and probably few such patients could stand its frequent repetition. 2. With a laparotomy the ileum could be opened a yard above the ileo-cæcal valve. Two principal techniques are available: (1) resembling that of a sigmoid colotomy and (2) resembling that of a Witzel's gastrostomy. With the former the last yard of the ileum and the whole of the large intestine could be placed at rest, no fæces passing through, but only the warm weak saline or silver solutions prescribed by the physician. With the latter much, if not all, the fæces would still pass on to the rectum and natural anus. Medication would be easy, but rest would not be secured. The first technique would be the quicker to do, while the anatomical result of the second technique would be simpler to undo when the patient had recovered. But resection of a portion of small intestine for the purpose of closing such an enterostomy opening as this which we are discussing should, in competent hands, be a very safe procedure, because (*a*) it would be of *small* intestine, not large, and (*b*) there would be no embarrassing adhesions such as often complicate fæcal fistulæ which have been caused by tubercle, by appendicitis, or by other diseases attended by peritonitis. 3. With an appendicostomy the surgeon would put himself and his colleagues in a position to wash out and to empty the whole large intestine with ease. By sufficiently dilating the appendix, not usually a difficult task, egress could be given for the unhealthy fæces before they had passed on beyond the cæcum. Further, as the appendix opens into the cæcum only from one to two inches below the ileo-cæcal valve, and as the exact relation and distance of the two could be noted precisely at the time of performing the appendicostomy, the passage of a catheter into the small intestine through the ileo-cæcal valve is not difficult. It is not its difficulty but its questionable advisability that might prevent one from resorting to this manœuvre. Owing to the fact that there might be an ulcer on the point of perforating certain precautions would be necessary. I would suggest the following. 1. Careful inspection, if possible, of the lower end of the ileum at the time of operation. Great gentleness would be advisable. 2. The use of a glass catheter. When this passed through the ileo-cæcal valve it would probably be gripped and after a time fluid fæces would rise in it to a certain level, indicating a pressure beyond which it would not be perfectly safe to go far in washing out the ileum through the catheter. It would be better to wash out with a funnel than with a syringe. If necessary the appendicostomy could, of course, be used to feed with water or with digested, or semi-digested, milk, &c. I think the chief value of appendicostomy in typhoid fever would be to keep the whole large intestine well and frequently washed clear of fæces polluted with discharges from ulcerations and to substitute for these discharges abundance of water or neutral saline solution.

There is one consideration which points to enterostomy as preferable to appendicostomy, unless it can be demonstrated as comparatively safe and practicable not only to pass a wide catheter or drain through the appendix and the ileo-cæcal valve but to *keep* it there, so as to remove all internal pressure from the lower end of the ileum. It is possible that, as has been also suggested by Box and Eccles, it is the stasis of infected fæces by the ileo-cæcal valve which is the cause of so much typhoid ulceration occurring in the coils just above it. This is an indication for enterostomy, and the position for that operation is about a yard above the ileo-cæcal valve. The distal and the proximal openings should be well separated by some such means as that which Bidwell recommends for sigmoid colotomy—viz., suturing the lips of the middle of the parietal wound together through a hole in the mesentery.

I have been for two years endeavouring to get from some of my medical colleagues the opportunity of applying the above considerations to a case of typhoid fever. I have been invited to see one or two but they seemed to be doing so well while I kept them under observation that in those particular cases I did not feel justified in doing otherwise than let well alone. I should naturally have preferred to operate first and write afterwards but did not feel that my paper on appendicostomy read at Leicester in July, 1905, would be complete without stating that "appendicostomy has a conceivable value in the treatment of typhoid."[7] Sir William Bennett returns to the subject in his recent lectures.[8] He tells us that Dr. W. Ewart is extremely anxious to utilise appendicostomy in the treatment of typhoid fever and finds little or no difficulty in introducing an instrument through the ileo-cæcal valve by means of an appendicostomy. This carries us a step further.

The operative treatment of typhoid fever ought not to mean taking this disease out of the physician's domain and transferring it to the surgeon's. It is a means of facilitating treatment by the physician. If an enterostomy be done the task of restoring the continuity of the intestine after the enterostomy is no longer wanted should be entrusted to an experienced abdominal surgeon. Even appendicostomy, although one of the easiest of operations when the patient is of normal, average, and healthy anatomy, may be neither easy nor safe if performed rashly on a different subject—e.g., on a fat person with the appendix the seat of old inflammation, surrounded by tough adhesions, and stretching up behind the cæcum. Ultimately I believe that when the services of a practical abdominal surgeon are obtainable enterostomy rather than appendicostomy will be the operation preferred. Enterostomy raises the question of the comparative danger to other people, and especially to nurses, of typhoid stools passed through enterostomy openings and those passed per anum. Through the enterostomy all stools would be liquid and would be passed without the patient's control, but if large wood-wool pads were used and they and the cleaning swabs were handled with forceps, as they ought to be, cleaning the

[6] Medical News, 1887, vol. ii.

[7] Brit. Med. Jour., vol. ii., 1905, p. 864.

[8] THE LANCET, Feb. 17th, 1906, p. 420.

abdomen, the right flank, and the groin would be easier than cleaning the buttocks and perineum of an apathetic typhoid patient with diarrhœa.

Grosvenor-street, W.

SOME POINTS IN THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.[1]

BY SAMUEL WEST, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO, AND LECTURER ON MEDICINE AT, ST. BARTHOLOMEW'S HOSPITAL.

UNDER the term "chronic Bright's disease," as commonly understood, are included two different affections—viz., chronic parenchymatous inflammation or the later stage of acute nephritis and granular kidney. They stand in marked contrast with one another and, so far as treatment is concerned, must be dealt with separately. The questions that I shall deal with will be chiefly those upon which opinions are undecided or at variance.

CHRONIC PARENCHYMATOUS NEPHRITIS.

In chronic parenchymatous inflammation we have to do generally not with a slowly progressing—i.e., still active—process but with the results of an inflammation previously acute but not any longer active. As the stages pass gradually into one another, and it is impossible to say exactly where the acute stage ends and the chronic stage begins, so the treatment of acute nephritis gradually merges in that of chronic, and the first question which arises is: When and in what way the treatment of the acute stage may be modified, its restrictions relaxed, and the treatment of convalescence be commenced? In acute nephritis the circulation in the kidney is disordered, the cells disorganised, and the tubules obstructed by disintegrated cells and exudation. The treatment at this stage is to relieve the kidney of work by modifying the diet, keeping the skin and bowels active, and avoiding all renal irritation. In the later or so-called chronic, or post-nephritic, stage the circulation has more or less recovered itself except so far as there is the hyperæmia which is necessary for active cell growth. The obstruction to the tubules is relieved and new cells are actively growing to take the place of those which the inflammation has rendered useless. This cell growth is the chief phenomenon of convalescence. For healthy cell growth the body must be in a good state of nutrition and the delicate young cells formed must be nursed and protected until they are seasoned and robust. The problems, then, of convalescence are to promote the growth of healthy cells, to avoid all fresh irritation, and to relieve the weak and delicate organ.

One of the first signs of improvement is the disappearance of œdema. In the early stages when the inflammation is active the œdema is universal and probably of toxic origin, but in the later stages it is often cardiac—i.e., due to weak circulation. Iron is often said to be of no use in the treatment of the anæmia of renal disease. For renal cachexia—i.e., for toxæmic anæmia—it is practically useless, but not for the post-nephritic anæmia, for which condition it is one of the most useful general tonics that can be employed. Another sign of improvement is the disappearance of the high tension of the acute stage. The pendulum often swings the other way and the tension falls much below normal. For this tonics and stimulants are necessary and probably the use of such drugs as digitalis, strychnine, and adrenalin.

The more the functions of the kidney are impaired the more actively must the complementary organs be worked—viz., the skin and bowels. Conversely, as the kidneys regain their functional powers, the less active need this complementary treatment be. So active diaphoresis, bathing, and purgation become unnecessary; more than that, these methods are all lowering and depressing and, therefore, when the acute stage of the disease is past they are contra-indicated. All that is necessary is that the skin should be kept gently acting, the bowels gently moved, a Turkish bath ordered once or twice a week, or a hot bath on going to bed. The milder purges are sufficient, such as salines or rhubarb and aloes, but mercurials are now best avoided. The gradual reduction in the amount of albumin in the urine is rightly regarded as the best indication of the progress of the disease towards recovery and when albumin is permanently absent the case may be regarded as cured.

Albuminuria is really a symptom and an indication, but it is often regarded and treated as a disease in itself. The significance of albuminuria depends upon its relation to other conditions of the urine—e.g., the quantity, the specific gravity, the amount of urea, &c. If these be normal the presence of some albuminuria is of little importance. The filtration of albumin from the vessels into the renal tubule is prevented by the cells. If the tube contain no cells or the cells be not normal, albumin will filter through. Recovery from acute nephritis is therefore largely a question of the growth of cells. The old ones have to be removed and new ones produced. The kidney cells are highly specialised and therefore are very slowly regenerated. When grown they take still longer to get seasoned and resistant so that the kidney will be delicate for some time and will not stand overwork or irritation. The problem, then, in convalescence from renal disease is how to get the cells well grown and seasoned.

The first important question in the treatment of chronic parenchymatous nephritis is that of diet. When and in what way may that be improved? Patients are often kept upon a milk diet so long as albumin is present in the urine. Milk is a good enough diet for little children and in acute disease adults have to be treated like little children. Yet for both alike in time the diet must be strengthened. For if kept on milk alone the nutrition suffers, the tissues become flabby and soft, and though life may be maintained for a long time on milk alone, especially if supplemented by starchy food, still the body is not vigorous and the general tone is poor. Fortunately, adults get so tired of milk alone that they often take the matter into their own hands and modify the diet for themselves. The benefit of change of diet in chronic parenchymatous nephritis is a matter of daily experience. Their condition often remains stationary till a more liberal diet is given and then improvement is rapid.

There are certain articles that should be avoided in all cases of kidney disease. One is alcohol in all forms, another is meat extracts, whether in the form of soup or broths, or of the much advertised and popular extracts of meat; so also fruits and vegetables which are rich in irritating salts—e.g., tomatoes, asparagus, gooseberries—and for a similar reason salted and preserved meats. Why eggs are taboo I cannot understand, for they are composed of a very easily assimilated form of albumin and are an excellent supplement to milk. Nor can I see any reason for the prejudice which exists against red as distinguished from white meats unless it be that some patients may find the one more easy of digestion than the other. Red meats contain no more extractives than white. In both cases boiled meats are better to begin with than roast, as in boiling some of the extractives are dissolved away. The patients often crave for a little red meat and I do not know any good reason for refusing them their wish.

The next practical question that arises is when may a patient leave bed and get about. The risk of getting up is that of catching cold and every precaution must be taken to avoid this. The difficulty of doing this with children is often so great that bed is regarded as the safest place. So it might be with a careless adult. But prolonged confinement to bed affects the health injuriously, though children bear it better than adults. The change from a recumbent to the erect position is very likely to be accompanied at first by an increase in the amount of the albumin which, however, may slowly decrease again as the body accommodates itself to the altered conditions. Fresh air is a very important factor in the treatment of the convalescent stage, though it is often not thought of, and the patient is confined to one room which is kept too warm and not sufficiently ventilated. Even if the patients are in bed the windows may be open and as much fresh air given as possible provided there be no draught. In suitable weather kidney cases may even be carried in the bed out of doors and lie all day in the sun. The open-air cure of nephritis is as important and advantageous as it is in many other forms of inflammation, provided draught and exposure be avoided.

The drug treatment of chronic parenchymatous nephritis is that of convalescence from any severe disease and will be modified only so far as the organ attacked, in this case the kidneys, requires.

GRANULAR KIDNEY.

In granular kidney the problems are different. Here we

[1] A paper read before the Medical Society of London on Feb. 26th, 1906.

have to deal with a disease the course of which is slowly progressive and the origin obscure. The treatment will vary according to the stage of the disease. The course of the disease may be divided into three periods: (1) The early stage, in which, though the diagnosis is clear, the symptoms are few or none; (2) the late stage, in which the symptoms are pronounced and may be urgent; and (3) the intermediate or middle stage, in which the symptoms vary in kind and degree.

1. In the early stage the patient believes himself and appears to be in good health and the disease is revealed by accident—examination for life insurance, for example, or some other accidental cause which takes the patient to the medical man. Albumin is discovered in the urine and the other signs establish the nature of the case. Then the patient rushes into one of two extremes, each bad—either refusing to believe that there is anything wrong and that care is necessary, or being greatly alarmed and becoming a renal hypochondriac. The medical practioner's difficulty is to steer the patient between these two extremes: to alarm him enough so as to make him careful and not too much so as to make him nervous. Patients often resent being condemned as unsound when they believe themselves to be robust. Yet surely it is to their advantage if they have a weak organ to know it so that they may spare it.

The early diagnosis of granular kidney is not difficult and it is in the early stage that the course is to be arrested, if that be possible, or at any rate retarded, as there is every reason to believe that it may be with care and good management. Albuminuria is not a disease but a sign or indication, and it is the difficulty of excluding granular kidney that makes the diagnosis of so-called physiological albuminuria in the young adult so uncertain. Patients not infrequently come to the physician who have been thoroughly frightened and who because of the albuminuria and the diagnosis of chronic kidney disease have been placed upon an extremely strict regimen and made to live an invalid life, with the only result that their health, which was, as they thought, good, had become impaired and their life previously enjoyable made a burden. No wonder that they think the discovery of albuminuria a misfortune. In the early stage of granular kidney such a strict regimen is unnecessary. The removal of the extreme restriction is followed by improvement in health and in renewed enjoyment of life. The treatment of albuminuria as if it were the disease and as if its disappearance would cure the disease is not only theoretically unsound but mischievous in practice. At this stage the patients must live moderate, careful, and temperate lives, be properly clothed, avoid chills and exposure, keep their skin in good action, and the bowels regular. They must avoid alcohol, especially spirits, eschew dissipation of every kind, and live as much as possible in fresh air and sunlight. Even their recreations need not be seriously restricted, provided they are not such as to lead to risky exposure or fatigue. Bathing, of course, in the open must be absolutely prohibited, so also fishing, so far as it involves wading, or shooting, except in fine weather, and hard hunting, but riding and all forms of gentle exercises, if chill and exposure and over-fatigue are avoided, may be allowed and are beneficial. The early stage spreads itself over many years and the strain of the disease is usually not felt until the age of 40 or 50 years. Till then or till other symptoms develop, with care and good management, life may be active and enjoyable both in work and play. During the early stage, then, the general health should be maintained in every way by appropriate dieting, by avoiding exposure, overwork, and worry, by fresh air and regulated exercise. All this is compatible with an ordinary life, and though medical supervision and care are requisite this need not be in special institutions or particular places.

2. In the middle stage, when the heart is markedly hypertrophied and the arteries are much thickened, the treatment has to be directed, in addition, to guarding against the accidents that are now specially liable to occur. These are chiefly failure of the heart, rupture of vessels, and inflammatory affections of the kidney itself. A hypertrophied heart has diminished reserves and therefore hypertrophy of the heart is rightly regarded as a pathological condition. It lacks the margin or reserve of power which the healthy heart possesses. It's reserves have been swallowed up in growth, so it is that a hypertrophied heart will give way under a strain that would not affect a healthy heart at all. It is therefore especially necessary in this stage to avoid physical or mental strain and fatigue and to watch the heart very carefully during any intercurrent illness and especially during convalescence from it.

The cardiac treatment is of a normal kind, but it is necessary to be careful with digitalis because of its effect upon vascular tension, for if the tension be already high digitalis will increase it further and throw extra work upon the heart, but if the tension be low it will raise it and in this way assist the circulation. It may therefore do harm as well as good. Citrate of caffeine is a useful drug, for it is a mild diuretic as well as a cardiac stimulant. When the heart once becomes weak failure is often very rapid and if the heart be much hypertrophied how large a margin of reserve is left cannot be easily estimated.

That granular kidney is a predisposing cause of acute nephritis in the adult is not generally recognised. Yet there can be no doubt of the fact. It is not at all uncommon to find in such cases an amount of thickening and degeneration of the arteries and of hypertrophy of the heart which could not have been produced by acute nephritis of such short duration but must have been long antecedent to it. Even the degeneration changes in the retina may be present, which are conclusive proof of the pre-existence of granular kidney for a long time.

This relation between granular kidney and acute nephritis has important bearings. It affects the prognosis—i.e., the prospect of cure—for though the acute inflammation may subside the patient cannot lose the renal disease that he previously had and complete recovery is impossible. This, no doubt, partly explains why, speaking generally, acute nephritis in the adult is of less favourable prognosis as regards cure than in the child. Indeed, while acute nephritis in the child suggests inquiry as to some recent specific fever, such as scarlet fever or diphtheria, in the adult it suggests the previous existence of granular kidney. This association has also a theoretical importance, for if an adult after an attack of acute nephritis is found some time later to have granular kidney it does not follow that the acute nephritis led to, or caused, the granular kidney. On the contrary, it may be that the granular kidney itself was the antecedent disease and itself the cause of the acute attack. We know that it is only in a very small percentage of cases of granular kidney that clinical evidence of antecedent acute nephritis is obtained, and the value even of this is to be discounted if it is true that acute nephritis not infrequently occurs as an intercurrent affection in the course of granular kidney.

3. In the third or latest stage the symptoms are pronounced. They are very variable and may point to almost any part of the body as the cause of mischief rather than the kidney. Yet symptomatic treatment is often unsatisfactory and unsuccessful until the cause—i.e., the renal condition—is recognised and treated. In this respect treatment rests, as it always should rest, upon accurate diagnosis.

The symptoms are very variable and may be very puzzling: thus frequent vomiting might suggest gastric ulceration, a suspicion which would certainly be strengthened if hæmatemesis occurred; if accompanied by violent headache and optic neuritis it might suggest cerebral tumour; if associated with profound asthenia and general sallowness or deepening of the tint of the skin; Addison's disease or cancer; if in the woman, and especially in the morning, pregnancy. In many cases simple gastric and intestinal dyspepsia is diagnosed and regarded as of no serious import. Generalised skin eruptions of an erythematous or urticarial type, eczema, pityriasis, or even dermatitis exfoliativa, which in themselves may not be specially grave, assume an essentially different aspect when occurring in a patient with granular kidney, for in a large proportion of cases they are fatal.

It is specially in connexion with the nervous system that granular kidney is likely to be overlooked. Renal headaches are often diagnosed and treated as hemicrania, though hemicrania beginning in middle life or later should always be regarded with suspicion. Various forms of nerve degeneration, cerebral, spinal, or even peripheral, may occur, and after syphilis granular kidney is the commonest cause of them. The order would be syphilis in early life, granular kidney in middle life or later, and atheroma in old age. Epileptic fits may be one of the early symptoms of the last stage of granular kidney, though this has not been generally recognised. The cerebral degeneration may show itself in attacks of irritability, emotional excitement, and even mania or the chronic dementia of cerebral softening. In this connexion it is interesting to recall the great frequency with which granular kidney is found in patients who die in lunatic asylums.

In all these cases, when the correct diagnosis is made and the relation of the symptoms to granular kidney recognised, the adoption of appropriate renal treatment in addition to the general measures indicated is likely to be, and as a matter of fact is, in many cases followed by beneficial results. In the later stage of granular kidney the arterial tension gives many useful indications for treatment. A patient with granular kidney ought to have an arterial tension which is above normal. The patient would be better without granular kidney, but having granular kidney he is best with a moderately raised tension. From this pathological normal the tension may vary by way of excess or defect; it may be too high or too low. If too low it must be raised. This is the rationale of the use of digitalis, which, besides raising the tension, stimulates the heart and improves the circulation; but if the tension be not low, still more if it be really excessive, digitalis can do nothing but harm. Other drugs which may be used to raise the tension are adrenalin and ergot, supplemented by a more liberal diet and some stimulant. If the tension be excessive it must be lowered. With this object the diet may be reduced, all stimulants cut off, a purge given, and the skin made to act freely by baths and diaphoretics.

Of drugs, nitro-glycerine is useful and may be given regularly in doses of from two to three minims two or three times daily, supplemented it may be by full doses of iodide of potassium. If it be desirable to increase the quantity of urine caffeine or theobromine and its combinations such as diuretin, are useful as having a stimulating effect upon the heart as well as on the kidney. Of all drugs for chronic renal disease I think pilocarpine is the most useful. I cannot understand the prejudice that seems to exist against it in some quarters. I have used it very largely and have never seen any disadvantage follow its administration; on the contrary, nothing but good. Apart from its general action many of the symptoms are distinctly controlled by it. Thus, headache and the exhausting restlessness so common in the latest stages of the disease may be relieved by pilocarpine more immediately and persistently than by any other means and even threatened uræmia staved off. I consider it the most useful renal remedy of all. I generally give it by the mouth two or three times a day in a dose of $\frac{1}{8}$th of a grain of the nitrate. Sub cutem $\frac{1}{12}$th of a grain is enough to begin with. This produces nothing more than a gentle action of the skin. The profuse sweating or discharge from other parts of the body described is not produced by such doses, even when repeated two or three times a day, nor have I ever seen anything like collapse or fainting follow them.

The asthenia, anæmia, and general failure of nutrition, as well as many of the symptoms that develop in the later stages, are often referred to chronic toxæmia—i.e., to a condition due to the toxic effect of some substance of which the kidneys ought to get rid but cannot. They bear so close a clinical resemblance to the conditions which arise from the failure of some internal secretion as to suggest that the kidney has also an internal secretion. Moreover, these symptoms stand in direct relation with the amount of destruction in the kidney; they do not develop until the degeneration of the kidney is far advanced; and they bear a resemblance to the conditions which have been produced experimentally by the gradual removal of portions of the kidney in animals.

We have so far no actual proof that the kidney has an internal secretion, however much inclined we may be by other considerations to believe that it is so. But the connexion between the thyroid gland and myxœdema was not conclusively established until it was shown that the administration of the gland substance cured the disease. The relation between diseases of the suprarenal gland and Addison's disease is clinically established but so far the administration of the gland or its derivative, adrenalin, has not cured the condition. There is the same sort of relation established clinically between the symptoms of granular kidney and wasted kidneys. The administration of renal substance or extracts is in the experimental stage. *A priori*, that treatment deserves serious trial. The results are so far inconclusive. For this there may be several reasons. Many of the cases come under notice too late for treatment of any kind whatever to do much good; the suitable cases would be those in the earlier stages. Then, again, stable renal extracts cannot as yet be prepared and the extracts to be used must be made fresh as required. Many of the extracts have been made from the kidneys of sheep—that is, from those of vegetable feeders. It may be that the kidneys of omnivorous creatures like the pig would be more efficacious. As it is, using such preparations as I could make or get made, I think I have had some good results—results sufficiently encouraging to justify further experiments.

Wimpole-street, W.

ON THE MANAGEMENT OF THE THIRD STAGE OF LABOUR.[1]

BY G. F. BLACKER, M.D. LOND., F.R.C.P. LOND., F.R.C.S. ENG.,

OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND TO THE GREAT NORTHERN CENTRAL HOSPITAL.

To those of us who are actively engaged in obstetric practice the third stage of labour must always be a subject of interest and importance. I will therefore offer no excuse for venturing to discuss such a well-worn topic as the one I have selected. I am afraid I have nothing very novel to bring forward, but it is always advisable from time to time to reconsider our methods of treating even the commonest conditions in the light of the most recent investigations. Of late years our knowledge of the mechanism of the various stages of labour has been very largely increased by the study of the frozen sections that have been published by various observers. Even at the present time, however, there are some details of the third stage of labour, more especially with regard to the manner in which the placenta is expelled from the uterus, upon which our information is by no means perfect.

In order fully to understand so far as we know it the mechanism of the third stage it is necessary to recall to your memory the anatomical conditions that may be recognised from an examination of the frozen section towards the end of the second stage—that is to say, just before the birth of the child—which has been published by Barbour and Webster.[2] At this time the fundus of the uterus is some nine and a half inches above the pubes, opposite the first lumbar vertebra—that is, at the same level as, or even a little higher than, it was at the commencement of the second stage. This is due to the fact that the contractions of the uterus produce an elongation of the child's body by straightening its spine, so that although the head is now on the perineum the fundus of the uterus has not sunk below its original level at the commencement of the second stage and does not do so until the head is expelled through the vulva. The body of the uterus is moulded upon the body of the child, but during the pains moves forwards somewhat, so that its long axis nearly corresponds with the axis of the inlet of the pelvis. The upper uterine segment is from two to three times thicker than the lower uterine segment and the site of the ring of Bandl, the so-called retraction ring or the line of union between the two segments, is now apparent.

The placenta is firmly adherent to the uterine wall, while the membranes are detached over the greater part of the lower uterine segment but are still attached to the whole of the upper uterine segment above the level of the retraction ring. If we compare a frozen section from this stage with one showing the condition after the birth of the child, such a section, for instance, as that published by Pestalozza,[3] from a patient who died from pulmonary œdema after delivery with forceps of a stillborn child, we are at once struck with the great changes that have occurred in the uterus. The whole organ, with the exception of the area of placental attachment, has contracted and retracted on to the placenta and has become reduced in size to a body measuring eight inches vertically by four inches antero-posteriorly. The greater part of the antero-posterior measurement is made up of the placenta which measures two and three-quarter inches, while the posterior wall to which it is attached measures only a quarter of an inch in thickness and the anterior wall one inch.

The uterus as a whole has sunk so that the greater part of the lower uterine segment is in the true pelvis and the fundus now reaches up to about six and a half inches above

[1] A paper read before the Wimbledon and District Medical Society on April 6th, 1906.

[2] The Anatomy of Labour, 1899, Plates 5 and 6.

[3] Pestalozza: Anatomia dell' Utero Umano, Vellardi, Milano.

the symphysis pubis. The placenta, still completely attached to the uterine wall, has diminished somewhat in superficial area and is closely surrounded and gripped, as it were, by the uterine muscle. The membranes while attached to the upper segment are detached from the lower and are hanging in folds into the vagina. Another section published by Pestalozza from a woman who died after the expulsion of twins from the uterus shows the close attachment of the placenta extremely well.

On placing a hand upon the abdomen of a patient after the birth of the child we find that the upper border of the fundus of the contracted and retracted uterus lies at about the level of the umbilicus. It feels firm and well defined above, soft and ill defined below, is usually in the middle line or a little to one side of it, and can be moved from side to side with great ease and to a considerable extent. A further examination of the frozen section of this stage enables us to ascertain that this marked mobility is due to what I may term the crumpled condition of the lower uterine segment. The weight of the upper uterine segment containing the placenta pushes down and folds up the thin soft walls of the lower uterine segment. On a vaginal examination can be felt the soft sac formed by the lower uterine segment and the cervix projecting into the vagina and pushed down from above by the body of the uterus containing the placenta. It is just at this point in the mechanism of the third stage that our knowledge of what actually occurs is deficient. No frozen sections have so far been published showing the precise manner in which the separation of the placenta and its expulsion from the uterus take place.

What is it exactly that brings about the separation of the placenta? Are we to ascribe it to the formation of a retro-placental hæmatoma, to the contraction and retraction of the uterus, to the retraction alone, or is it due, as Berry Hart[4] would have us believe, to the relaxation of the uterus, that is to say, to the occurrence of a disproportion between the area of the placenta and membranes and their site of attachment?

A discussion of all these various theories would take up too much time and would prove of little practical value. It will suffice for our purpose if we assume that in the majority of cases the placenta is separated and expelled from the uterus by the contraction and retraction of the uterine muscle and that its separation begins in most instances near the lower edge. This view corresponds to what we have seen occur in the case of the fœtus—viz., that it is compressed and elongated by the uterine contractions and that under the pressure exerted by them it passes in the direction of least resistance into the vagina.

The question as to whether the placenta leaves the interior of the uterus folded upon itself vertically, or inverted with the fœtal surface leading, is one that has given rise to a great deal of investigation and discussion. The notable differences in the results of various observers would appear in great part to be explicable by the fact that they have not discriminated sufficiently between the passage of the placenta from the upper into the lower uterine segment and its passage from the latter into the vagina. Nor have they been able to determine with sufficient accuracy upon the living body what is the exact position of the placenta in utero in any given case. It is very probable that when the placenta is situated at the fundus of the uterus it is expelled inverted or by Schultze's method, while when it is attached to the anterior or posterior wall of the uterus it is expelled folded vertically or by Duncan's method. We must also remember that if the child's body be extracted by traction immediately after the birth of the head a retro-placental hæmatoma is more likely to form than if the birth of the body be effected by the uterine contractions alone. There are, then, three ways in which the placenta may be expelled from the uterus—inverted, with the fœtal surface leading; folded upon itself, with a point near the lower margin leading; or, lastly, with the maternal surface leading. It is more especially when the placenta is expelled in the last-named way, which occurs (according to Varnier[5]) in about 9 per cent. of all cases, that retention of a portion of the membranes is likely to occur.

The separation of the membranes is produced partly by the contraction and retraction of the uterine walls and partly by the traction exerted upon them by the escaping placenta. At the commencement of the third stage of labour they are thrown into numerous folds which become separated from the uterine walls at their summits but remain attached at their bases. The chorion and amnion, however, do not form similar folds, those of the latter being narrower and more numerous, so that the two membranes usually become separated to some extent from one another. The traction exerted by the escaping placenta is, then, in the majority of cases sufficient to complete the separation through the decidua and to allow of the membranes escaping from the uterus intact.

Now that we have shortly considered the anatomical conditions present in the uterus at the end of the second stage and at the commencement of the third stage of labour, we may pass on to consider the clinical details. As I have already mentioned, if we place the hand upon the fundus of the uterus after the birth of the child we find it at or about the level of the umbilicus. It is readily recognised as a firm, well-defined tumour with a regular convex outline and with its greatest circumference a little below the upper border. If after the lapse of a varying length of time—say, from 10 to 15 minutes—we determine the level of the fundus again, we find as a rule that it is now some one and a half to two inches above the umbilicus. The uterus is still well defined, regular in outline, the upper segment somewhat flattened antero-posteriorly, whilst the lower uterine segment presents a distinct bulging above the symphysis pubis. If pressure be made upon the fundus of the uterus it is no longer possible to obtain a sense of fluctuation in the umbilical vein of the tied cord. As Strassmann[6] has pointed out, the absence of this physical sign indicates, with very rare exceptions, that the placenta has become separated from the uterine wall. If a second ligature has been applied to the cord at the vulva it will be seen that the portion of the cord outside the vulva has become lengthened to the extent of from some four to five inches. If no interference is carried out and the uterus be still watched, in from another 10 to 15 minutes the fundus will be found to have again descended to the level of the umbilicus and the bulging of the lower uterine segment to some extent will have disappeared. During this period the patient will probably have had several sharp after-pains and also a desire to strain and to bear down. These changes in the level of the upper border of the uterus during the third stage indicate—first, when the fundus ascends that the placenta has been separated from the upper uterine segment and is now lying in the lower uterine segment, and, secondly, when the fundus sinks again that the placenta has been wholly or partly expelled from the lower uterine segment into the vagina. The termination of the third stage, or the expulsion of the placenta from the vagina, is now merely a matter of time varying from a few minutes to one or two hours. That the placenta, without any danger to the mother, can be delivered by the natural forces is a fact contradicted by no one. A question that legitimately arises is, What length of time should be allowed to elapse before assistance is given in those cases in which no serious hæmorrhage occurs, and what, if any, is the danger to the patient if the placenta be allowed to be expelled naturally?

The most important advocates of non-interference with the third stage of labour are Ahlfeld[7] and von Winckel.[8] For many years these two obstetricians have given up the practice of assisting the expulsion of the placenta and are content to allow the woman to give birth to her placenta as she has already given birth to her child, and in this they are but following out the traditions of Puzos[9] who wrote: "The expulsion of the placenta is as certainly the work of nature as is the birth of the child." In his large experience von Winckel has seen no ill effects from this mode of treatment, the amount of blood lost not exceeding the average of from 250 to 300 grammes, and no bad after-results having occurred. In hospital practice he allows two hours to elapse, and if at the end of that time the placenta has not been expelled spontaneously it is expressed by Credé's[10] method. Ahlfeld waits

[4] Berry Hart: Selected papers on Gynæcology and Obstetrics, 1893, p. 118.

[5] Varnier: Obstétrique Journalière, 1900, p. 254.

[6] P. Strassmann: Handbuch der Geburtshülfe, F. von Winckel, vol. iii., part 1, 1906, p. 853.

[7] F. Ahlfeld: Lehrbuch der Geburtshülfe, 1903, p. 179.

[8] F. von Winckel: Ibid., 1893, p. 181.

[9] M. Puzos: Traité des Accouchmens, 1759, p. 147.

[10] I have used the term Credé's method as convenient and well understood, but H. Jellett has pointed out (Dublin Journal of Medical Science, vol. cix., 1900, p. 412) that to the Dublin School really belongs the credit of having introduced the method of expressing the placenta by abdominal manipulation. It was described as far back as

from one and a half to two hours and then employs a modification of Credé's method. Although this mode of treatment is no doubt applicable in hospital practice, yet it is inadvisable and, moreover, impracticable in private practice. Indeed, von Winckel himself in private practice employs Credé's method, but he does not attempt to express the placenta until from half an hour to three-quarters of an hour have elapsed since the birth of the child.

As the method of waiting in all cases until the placenta is spontaneously expelled is obviously impossible in private practice, and as it is customary not to wait beyond a certain length of time before proceeding to carry out one or other of the different means of assisting the delivery of the placenta, we may consider the following questions with regard to this mode of procedure. Is the method almost universally employed at the present day—viz., the expression of the placenta after a definite lapse of time—the best way of treating the third stage of labour? Do any ill effects follow this method of treatment, and, if so, what are they and how can they be prevented? The length of time that is usually allowed to elapse after the birth of the child before an attempt is made to express the placenta varies from a few minutes to half an hour. It is probably correct to say that the average is from 10 to 15 minutes in the great majority of cases. An arbitrary limit of time originally was laid down by Credé because he found that at the end of from 20 to 30 minutes the placenta was usually separated from the upper uterine segment and ready to be expressed from the lower segment in which it was lying. When it was found that this method of expressing the placenta was apparently a safe and certain one, the period of time allowed to intervene between the delivery of the child and the expression of the placenta became shorter and shorter, until at last in 2000 cases recorded by Credé himself it was as little as four and a half minutes. In 540 cases recorded by Chantreuil,[11] in 536 the placenta was expressed before the end of the first quarter of an hour, and in 491 of the 540 within the first five minutes after delivery. These figures show that it is often possible to express the placenta almost immediately after the birth of the child and no doubt it has happened to most of us to have done so and to have seen cases in which the child, the placenta, and the membranes were all expelled with one and the same pain.

The varying duration of the third stage when it is allowed to pursue its natural course without interference is shown by the figures published by Ziegler.[12] In 717 of his 834 cases the placenta was expelled spontaneously, in 641 before the lapse of one hour, and in 76 after one hour. In 111 it was expressed by Credé's method and in six it had to be removed manually. In 49 cases, or 6·8 per cent., of the 717 cases of spontaneous delivery of the placenta the third stage of labour lasted five minutes; in 277, or 38·6 per cent., from 15 to 30 minutes; and in 315, or 43·9 per cent., from 30 minutes to one hour. In the 717 cases in which the placenta was allowed to be expelled naturally the amount of blood lost averaged 258 grammes and in the 111 cases treated by Credé's method 315 grammes. It must be borne in mind that some, at any rate, of the latter cases were treated by Credé's method because of hæmorrhage and therefore no true comparison can be drawn.

Of 1000 confinements studied by Dohrn[13] in no less than 430 the spontaneous delivery of the placenta did not occur until after the lapse of half an hour and in only 202 did it occur within a quarter of an hour. His results conclusively show that whether the placenta is expressed by Credé's method or expelled spontaneously, the sooner within certain limits its expulsion from the body occurs the greater is the risk of the retention in utero of portions of membrane and placenta, of the development of fever during the puerperium and of the occurrence o post-partum hæmorrhage. Dohrn found that where the placenta was expressed within the first 15 minutes after the birth of the child, hæmorrhage followed in 21 per cent. of the cases: retention of a portion of membranes or placenta in 11 per cent.; fœtor of the lochia in 23 per cent.; and fever during the puerperium in 16 per cent. On the other hand, if the placenta was not expressed until after the completion of the first 15 minutes, hæmorrhage occurred in only 4 per cent. as compared with 21 per cent.; retention of portions of membranes or placenta in 1 per cent., as compared with 11 per cent.; fœtor of the lochia in 5 per cent., as compared with 23 per cent.; and fever during the puerperium in 3 per cent., as compared with 16 per cent. In these results the term "hæmorrhage" indicates an amount of blood lost greater than the normal amount of from 250 to 300 grammes and "fever" a temperature above 101° F. The conditions of the two series of cases were in all respects similar except in regard to the management of the third stage of labour.

Nordmann[14] in a recent paper on Adherent Placenta states that from an examination of the reports of the Pathological Institute in Basle he finds that the retention of portions of the placenta or membranes occurred from two to three times more frequently when it was the custom in the Basle clinique to express the placenta within ten minutes of the birth of the child than when half an hour or even a greater length of time was allowed to elapse after the termination of the second stage of labour before expression of the placenta was carried out.

In justice to Credé[15] we must admit that he himself towards the end of his life admitted the ill results likely to follow from too hasty expression of the placenta and in the fifth edition of his "Text-book for Midwives" he says: "In the absence of any serious hæmorrhage the placenta should be expressed after the lapse of about 30 minutes." If, therefore, in the absence of any urgent indications we proceed to expression of the placenta before the lapse of half an hour after the birth of the child we are not practising Credé's method as he intended it to be practised.

The results of Dohrn, which I have already quoted, and the experience of Ahlfeld and von Winckel show that the risk of retention of portions of membranes or placenta is the greater the sooner, within certain limits, the placenta is expressed after the birth of the child. I think I shall not be wrong in saying that in a very large number of cases at the present time the placenta is expressed long before the half hour has elapsed which was laid down by Credé as the proper interval and it is by no means uncommon to see attempts made to express the placenta within a few minutes of the birth of the child. Such a practice is entirely opposed to the natural mechanism of the delivery of the placenta. Before it can be expressed it must have become separated. No attempts at expression, however carried out, can play any part in producing complete separation of the placenta from the uterine wall or can bring about its expulsion unless it is first separated from its attachments to the uterus.

I am convinced from my own observations, and the figures I have quoted to you support this view, that the practice of attempting to express the placenta within a few minutes of the birth of the child without allowing sufficient time for the normal mechanism of its separation to occur is fraught with considerable danger to the mother, and it is chiefly with a view to calling your attention to these dangers that I have brought the subject before you.

The retention of small portions of the placenta or membranes is one of the commonest causes of septic infection after delivery. Such retention is due, not, as a rule, to the existence of any pathological adhesions between the placenta and the uterine wall, but most commonly to the forcible expression of the placenta before it has had time to become completely separated from the uterus.

Many writers have called attention to the dangers accompanying the employment of Credé's method too soon after the birth of the child, but these warnings are only too often forgotten, and if we wish to succeed in lowering the present abnormally high death-rate from puerperal septicæmia we must remember, among other things, the great importance of not hastily interfering with the natural mechanism of the separation and expulsion of the after-birth.

The correct management of the third stage of labour must be based, not upon any arbitrary rule as to the exact amount of time that should be allowed to elapse after the birth of the child before attempts at expression are made, but upon careful observation of the changes that occur in the uterus after delivery—changes which indicate with a considerable degree of certainty whether the placenta is separated and therefore ready to be

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the year 1848 by M'Clintock and Hardy in their "Practical Observations on Midwifery," and was only made known on the continent by Credé in 1860, although he taught the method clinically in 1853.

[11] Chantreuil: Archives Générales de Médecine, 1870, vol. ii., p. 402.

[12] G. A. Ziegler: Über den Verlauf der Nachgeburtsperiode in 1000 Fällen nacheinander. Inaugural Dissertation. München, 1901.

[13] Dohrn: Deutsche Medicinische Wochenschrift, No. 12, 1881, No. 39, 1883.

[14] A. Nordmann: Archiv für Gynäkologie, vol. lxv., p. 95, 1902.

[15] Credé: Lehrbuch der Geburtshülfe für Hebammen, Credé und Leopold, fifth edition, 1892, p. 104.

expressed or not. It must be borne in mind, however, that even if these changes occur in the first ten minutes or so after the termination of the second stage of labour it is best, in any case, to wait at least another ten minutes, unless some contra-indication such as hæmorrhage is present, so as to allow the membranes ample time to become separated from the uterine wall. We cannot say at present with any certainty when the membranes are sufficiently separated to be expelled entire, but we know from clinical observations that if the expression of the placenta be practised from some 10 to 15 minutes after it has passed into the lower uterine segment the chance of the retention of any portions of the membranes is very small indeed.

The question we have now to consider is, What are we to do if we find that the changes in the uterus indicative of separation of the placenta do not occur? Shall we try expression or shall we wait? In the great majority of cases the rise in the level of the fundus of the uterus and the bulging of the lower uterine segment are easily recognisable, but in patients with a great deal of abdominal fat it may not be easy to determine whether these conditions are present or not. In such a case, and even in cases where the external signs of separation are not very evident, an attempt at expression may be made after the lapse of half an hour. Supposing such attempts repeated two or three times fail, is it correct treatment, in the absence of any severe hæmorrhage or other indication, at once to remove the placenta with the hand? In view of the results obtained by the method of waiting for spontaneous expulsion of the placenta it is clearly not correct treatment. Manual removal of the placenta should not be practised in the absence of any urgent condition immediately requiring it for at least from one and a half to two hours after the birth of the child. It is more especially in cases where the woman is exhausted by a difficult or prolonged labour that ample time should be allowed to see if the placenta will not become separated spontaneously. At the end of from one and a half to two hours further attempts may be made at expression and if they fail manual removal should then be carried out. In cases treated in this way the number requiring manual removal of the placenta is very small indeed.

In 6800 labours in the Marburg clinique treated by Ahlfeld's[16] method of waiting from one and a half hours to two hours before undertaking manual removal of the placenta the operation was performed in 53 cases, 0·78 per cent., or once in every 128 labours. In Olshausen's clinique where Credé's method is practised, Seyffarth[17] has recorded during the years 1895 to 1901 79 cases of manual removal of the placenta in 9465 labours, 0·83 per cent., or 1 in 119 cases. In 10,387 confinements in the Dublin Lying-in Hospital recorded by Dr. Joseph Clarke[18] in 1817 in only 21, or 1 in 494, was manual removal of the placenta required. At that time it was the custom in that hospital to wait from two to 24 hours after the delivery of the child for the expulsion of the placenta. These figures show how very rarely it is necessary to remove the placenta manually when a sufficient length of time is allowed for its spontaneous expulsion.

The reasons why we should avoid whenever possible the performance of this operation are at once evident when we remember that manual removal of the placenta is attended with a relatively high mortality. Of 12,000 cases of labour recorded by Rosenthal[19] in Munich during the years 1890 to 1900 in 39, 0·3 per cent., or 1 in 309 cases, manual removal of the placenta was practised with a mortality of 13 per cent. This compares very unfavourably with a death-rate amongst the same series of cases of 8·6 per cent. for Cæsarean section, 4·8 per cent. for version, and 4·4 per cent. for forceps deliveries. Further than this the morbidity of such cases is unduly high. Of the 39 cases of removal of the placenta in only one-third were the patients free from fever during the puerperium and in another third this period was attended with very marked disturbances. Hegar's[20] statistics show a death-rate of 11 per cent. after manual removal of the placenta, 4·7 per cent. after the application of forceps, and 7·7 per cent. after version and extraction of the fœtus.

The risk of the introduction of septic material into the veins or lymphatics of the uterine wall is especially great because during the separation of an adherent placenta the fingers are brought into such immediate contact with these structures. It is probable that the more general use of sterilised rubber gloves whilst performing this operation will tend to reduce its dangers and to lower the mortality rate, and this is a precaution which should always be taken.

From this short and necessarily imperfect consideration of some of the points in the management of the third stage of labour, we may, I think, draw the following conclusions:—1. The third stage of labour is best treated by the employment of the Dublin or Credé's method of expressing the placenta after a sufficient interval of time has been allowed to elapse for the placenta to become separated from the uterine wall. 2. The tendency to shorten this interval of time to much less than the 30 minutes recommended by Credé is attended with considerable risk to the mother. 3. It is, however, best to be guided by careful observation of the changes in the uterus indicating that separation of the placenta has or has not taken place rather than by any arbitrary period of time. 4. After the change in the level of the fundus of the uterus takes place, indicating that the separation of the placenta has occurred, from 10 to 15 minutes should still be allowed to elapse so as to diminish the risk of the retention of any portion of the placenta or membranes. 5. If there is reason to suppose that the placenta is adherent and a trial of expression fails no harm will result to the mother in the absence of any urgent indications if a period of from one and a half to two hours is spent in waiting for its spontaneous separation and expulsion. 6. Manual removal of the placenta should never be performed if it can be avoided, and it should not be practised in the absence of severe hæmorrhage or any other indication for its immediate performance until from one and a half to two hours have elapsed since the birth of the child, and then only if further attempts at expression fail. 7. Retained portions of placenta and membranes should be removed at once, unless in the case of the membranes they are of quite small size. 8. In performing this operation it is a wise precaution to wear sterilised rubber gloves.

[16] Ahlfeld: Zentralblatt für Gynäkologie, No. 11, 1904, p. 345.
[17] P. Seyffarth: Über Manuelle Lösung von Placenta und Placentarresten nach reifer Geburt, Inaugural Dissertation, Berlin, 1901.
[18] J. Clarke: Transactions of the Medical Association, Dublin, 1817, p. 369.
[19] Rosenthal: Die Fälle von Künstlicher Lösung der Placenta und deren Folgen, 1890-1900, Inaugural Dissertation, München, 1902.
[20] Hegar: Beiträge zur Geburtshülfe und Gynäkologie, Band I., 1, 1898.

THE INFLUENCE OF THE NERVOUS SYSTEM AND EXTERNAL TEMPERATURE UPON CERTAIN CIRCULATORY CHANGES CONCERNED IN THE ETIOLOGY OF CATARRH, ULCER, AND SIMPLE DILATATION OF THE STOMACH, WITH SUGGESTIONS AS TO TREATMENT.

BY ALFRED MANTLE, M.D. DURH., M.R.C.P. LOND.,
PHYSICIAN TO THE ROYAL HALIFAX INFIRMARY.

FOR several years I have been paying attention to disturbances of the vaso-motor system and I have observed a large number of cases of one kind and another in the wards and out-patient department of the Royal Halifax Infirmary. Whilst noticing the circulatory changes so commonly seen in the extremities I have been impressed with the frequency with which these symptoms are associated with others suggestive of circulatory disorders in one or other organs of the body. I have been struck with the fact that the bulk of patients under my care suffering with gastric disorder, whether ulcer or simple dilatation, are of a neurotic temperament and show marked circulatory changes in the extremities which have existed for a long period before the onset of the gastric symptoms or have appeared coincidently or subsequently to their development, and I have asked myself the question, Is there not a connexion between the gastric symptoms and those manifesting themselves in the extremities?

There is normally a very close relationship between the systemic and splanchnic circulation which includes the stomach and other viscera, and disturbances in the one sooner or later create disturbances in the other and destroy that physiological balance which should exist. It is

important to remember that some people are very susceptible to circulatory disorders and there is great significance in the remark, so frequently heard in the consulting-room, "I have always a poor circulation," which we may not have always appraised at its value. As already noticed, these patients are always more or less neurotic, and in such peripheral circulatory disturbances are common, but they may be only temporary and not so extensive as to alter appreciably the balance between the systemic, splanchnic, or other circulation, particularly if the earlier symptoms have been recognised and dealt with. But, on the other hand, if vaso-motor changes in the periphery are neglected and no treatment is adopted to remedy the same, which unfortunately is so often the case with the poor, there may develop functional symptoms pointing to a considerable alteration in the circulation of some organ or organs, and this may involve the stomach, particularly if carelessness occurs in diet. I know that coldness and cold extremities are mentioned as symptoms occurring with certain stomach diseases, but only as symptoms secondary to some gastric disorder. I now wish to deal with them as physical signs of an important disturbance of the circulation, aggravating and sometimes causing gastric disease. Sir Thomas Barlow has noted the appearance of stomach and other symptoms in two or three of his published cases of Raynaud's disease, which would seem to have been induced by peripheral changes affecting the splanchnic circulation. One of these was that of a woman who at the outset of the attack of cyanosis of the extremities had nausea and sometimes vomiting, showing a disturbance in the gastric circulation; and another case he records in a boy who not only had gastric symptoms but hæmoglobinuria with vaso-motor disturbances in the extremities. Abercrombie[1] also reports the case of a boy who suffered pain in the stomach when the hands were cyanosed and the urine was normal, but subsequently hæmoglobinuria developed. Porter[2] reported the case of a middle-aged woman who was liable to attacks of local syncope and asphyxia of the hands and feet, occurring three or four times a day and alternating with paroxysmal attacks of epigastric pain and vomiting, usually followed by slight jaundice. Albumin and bile were found in the urine after such a seizure but no blood or blood colouring matter was detected.

Causes of disturbance of the gastric circulation.—The gastric circulation may be disordered in three ways: (1) through the central nervous system; (2) by the irritation of food; and (3) by changes of external temperature. All of these causes may be combined in bringing about the circulatory change.

Mental causes: Excitement and worry.—Functional disorder of the stomach as part of a general functional disturbance of the nervous system has been too little considered and we are too ready to blame some article of food for most of our gastric troubles before making any investigation into the condition of the nervous system and circulation. Undoubtedly the majority of those who suffer with gastric disease give a history of worry and anxiety and many are very sensitive to temperature changes. Goodhart says[3]: "If I were going to write a book upon indigestion I should first devote myself to a volume on disease of the nervous system." It is evident that the nervous disturbance mainly acts by altering the blood-supply of the stomach and Sidney Martin[4] states: "Changes in the blood-supply and in the processes of innervation are of great importance in stomach disease." Any mental excitement or worry may cause or aggravate an attack of indigestion and this is probably through a deficiency of splanchnic control, which allows blood to yield to gravity and pass to the splanchnic area of the abdomen instead of the limbs. Leonard Hill[5] has pointed out how vaso-motor constrictor control of the splanchnic area normally forms the resistance box of the circulation and prevents gravitation. A few days ago a lady who was consulting me stated that whenever she had anxiety she felt some chilliness of the body, with discomfort and pain in the stomach; and another patient of the same type told me that she always felt worry referred to the stomach, with an abnormal feeling of coldness of the body and extremities. The late Dr. H. G. Sutton[6] wrote: "Under extreme mental depression and harass the stomach, like the face and other surfaces, may become congested and undergo catarrhal inflammation and the vessels become so full that hæmorrhage may result." These cases all point to the great influence of the mind over the circulation of the stomach—a fact demonstrated by Pawlow in his experiments upon gastric secretion.

Dietetic errors are chiefly manifest in the nervous.—The gastric circulation, as we know, is also disturbed locally by the ingestion and irritation of some article of food or beverage, and if the irritation continues not only is there a local but a general disturbance of the circulation. When dietetic errors produce so called dyspeptic symptoms it is chiefly in those of a nervous temperament, excepting some who abuse themselves with alcohol, tobacco, &c., for it is extraordinary how tolerant the stomach is and what it will digest without producing any symptoms of disturbed function when the nervous system is normal, and some of the most robust will say, "I can eat anything." I suggest, then, that it is in the nervous that indiscretion in diet shows itself most frequently, and then by locally disturbing the innervation of the stomach and producing reflexes which excite a hyper-sensitive vaso-motor centre. If dietetic errors be persisted in, the more or less continuous irritation causes an increasing tendency for blood to be drawn to the splanchnic area and leave the periphery, hence the development of symptoms of coldness of the body and extremities in chronic gastric disturbance. I emphasise this as being an important development, for any increase in the amount of blood in the splanchnic area tends to aggravate the already congested stomach, and other pathological changes such as superficial ulceration of the mucous membrane may follow, or a gradual dilatation of the organ, through loss of motility. With the poor, and particularly young women in the northern manufacturing towns, the abuse of tea is very common, and I believe more detrimental to the stomach than almost anything else, for tea is the popular beverage but is too frequently allowed to infuse for an indefinite time before being used.

Grave circulatory disturbances excited by gastric irritation.—We sometimes see local irritation in the stomach cause very acute gastritis or catarrh and the general circulation may become so quickly and completely disorganised as to border on collapse. This condition generally occurs in those who have previously shown functional disturbance of the stomach and who have taken some article of food which has acted as an irritant. I have seen several of such cases explored for perforation which has not been found. In one case a young woman in the Royal Halifax Infirmary who had been under observation for gastric catarrh ate some strawberries. Shortly afterwards symptoms of collapse developed and were of so serious a character that Dr. Priestley Leech, under whose care she was, explored the abdomen in order to find out if perforation had taken place, but found none. In another case under my colleague, Dr. W. Lockwood, a woman who for several years had suffered with gastric symptoms, after partaking of some pickled cabbage was seized with pain in the stomach, followed by the development of a condition of collapse of such a serious character that after consultation with his colleagues it was thought to be probably due to gastric perforation and an exploratory operation was deemed desirable. Pye-Smith[7] of Sheffield has published similar cases in which he explored the abdomen in these circumstances expecting to find gastric perforation, but nothing was found to account for the symptoms. This extreme condition would appear to be brought about by irritation in the stomach provoking afferent impulses to the vaso-motor centres and causing such a dilatation of the vessels of the splanchnic area and fall of blood pressure that blood which ought to be in the periphery is stagnated there, and is sometimes confused with that due to ptomaine poisoning. It also demonstrates the gravity of a great displacement of blood to the splanchnic area. Stewart[8] has said: "Not a drop of blood may be lost from the body and yet death may occur from hæmorrhage into the abdominal cavity, into the stomach, or intestines. A man may bleed to death into his own blood-vessels."

The influence of external temperature upon the gastric circulation.—Having shown that the stomach circulation may be disturbed by mental influences and by local irritation

[1] Archives of Pediatrics, 1886, vol. iii., p. 567.
[2] THE LANCET, April 27th, 1889, p. 841.
[3] Common Neuroses, p. 95.
[4] Diseases of the Stomach, p. 156.
[5] Allbutt's System, vol. vii., p. 250.
[6] Lectures on Pathology, p. 280.
[7] Quarterly Medical Journal, 1901.
[8] Manual of Physiology, p. 166.

of food, we must now consider what the influence of external temperature is upon the gastric circulation, for this has an important bearing upon treatment. The effect of temperature upon the individual varies considerably and whilst the majority do not feel change of temperature in any marked degree there are others much affected by it, the more nervous and particularly women being most sensitive. Some feel both extremes of temperature, but by far the largest class feel the cold abnormally; they seem intended for warmth and express themselves as only comfortable in warm or mild weather. The feeling of coldness may be limited to the extremities or particular parts of the body, or may be more or less general. With different instruments[9] I have taken the blood pressure in many of these cases and I find that cold tends to raise the arterial pressure whilst the venous pressure is lowered, and though these changes may be only temporary, yet with frequent narrowing of the systemic area by exposure, and a diminished tone in the splanchnic arterioles, there is a disposition in some to loading of the splanchnic veins and accumulation of blood in the splanchnic reservoir. Others feel heat abnormally and seem designated for cold weather, and in them the arterial pressure is found low and the venous high, but these do not suffer so much with gastric troubles as with cutaneous and other disturbances. Nearly all vaso-motor disturbances in the periphery are affected by changes of external temperature and may be observed there, but these changes, if considerable, cannot take place without others occurring internally, of a more or less compensatory character.

The influence of a cold atmosphere upon the cutaneous circulation is in some very rapid and circulatory changes may take place in the coronary, pulmonary, splanchnic, kidney, or other circulation in those exposed, but there can be no rule as to which organ will be chiefly affected. Confining our attention to the stomach, we must confess that the effect of external temperature upon gastric disorders has been too little regarded, important as it is. We see some who are liable to functional disturbance of the stomach markedly affected by changes of temperature; for instance, the change of temperature during the early hours of the morning may cause the patient to wake with coldness of the extremities and gastric pain, or the difference between the temperature of a warm room and one which is cold may be sufficient to cause discomfort in the stomach, whilst in others a cold east wind very often causes pain, accompanied or not with flatulence and nausea. The same people are sensitive to cold water and cannot take a cold bath, which has a similar effect upon them. In these cases the blood, driven from the skin by contraction of its vessels, chiefly affects the splanchnic area and is a similar displacement to that which normally takes place during the act of digestion, though the excitant in the latter instance is reflex from the stomach and is excited by food, whilst in the former it is the stimulus of a cold temperature acting upon the vaso-motor centres which brings about the changed condition of the cutaneous circulation. When food is introduced into the stomach an enormous amount of blood is drawn to this part for purposes of digestion and there is a correspondingly small amount in other areas, such as the skin, and in the healthy a feeling of chilliness is not infrequently experienced after a full meal (Stewart). A similar circulatory change brought about by exposure acting upon the sensitive nervous apparatus of the periphery is abnormal and if constantly repeated, as in the case with those much exposed in gaining a livelihood, may produce a chronic congestion and blood stasis, which if prolonged will become serious to the organs chiefly concerned.

The bulk of my hospital patients with gastric disease are young women employed in mills. Such an occupation tends greatly to aggravate any predisposition to circulatory changes. Rising very early in the morning and frequently with little or no food and that least suited to their condition, not too well clad, they face the weather, whatever it may be, and if working in a heated mill (more especially a cotton mill) are subjected throughout the day to extremes of heat and cold. The domestic servant represents another class undergoing a similar kind of experience and should she have the same tendency to vaso-motor disturbances her early morning duties may expose the sensitive peripheral vessels to sudden chills and the organ or organs most susceptible suffer. A servant maid who had gastric perforation and who was successfully operated upon by a colleague stated that she had learned by experience not to use cold water in her domestic work, the immersion of the hands causing so much discomfort and pain in the epigastrium; whilst another, under my care for hæmatemesis, described the epigastric pain as always coming on in the early morning when cleaning steps in a very exposed and cold position. Comparing the life of these workers with one in a different social position, having every comfort but with the same predisposition to circulatory changes, can we wonder that there is such a marked class distinction in those usually suffering with gastric ulcer, for undoubtedly it is more commonly seen among the poor?

Seasonal influence upon gastric disorders.—We must admit that gastric cases are most prevalent during the cold season of the year. I have made observations for several years on this point which conclusively prove that functional disturbances of the stomach and liver are more commonly met with during the first and last quarter of the year. Lauder Brunton[10] says, "Many people who are perfectly well during the dry weather begin to suffer from dyspepsia as soon as the weather becomes cold and damp." Robert Hutchison[11] has recently remarked, "It is in the spring of the year that most dyspeptics are loudest in their complaints." Risien Russell,[12] writing on gastric tetany, which in the adult is frequently the result of gastric dilatation, says that exposure to cold will produce the tonic contraction of the extremities, and according to Gunbrecht nearly three-fourths of the cases of tetany occur between the months of January and March. Eustace Smith[13] has recently pointed to the influence of chill in producing acute gastric catarrh and disturbance of the liver in children.

Splanchnic congestion from malaria and burns of body.—There are other conditions which bring about an active congestion of the splanchnic area and we must consider if they are in any way connected with changes in the stomach amongst other organs. In the cold stage of malarial fever we have a big displacement of blood from the skin to the internal organs which often causes nausea, vomiting, and intense headache, the pulse being small in volume and the urine increased in quantity. In severe cases there is hæmorrhage from the mucous membrane of the stomach and bowel, also hæmoglobinuria or hæmaturia. Rokitanski attributed some of his cases of gastric ulcer to malaria and if we consider the congested condition of the mucous membrane of the stomach in the remittent form when there is probably a condition of splanchnic stasis there is some reason for associating the two diseases, and English authors have spoken of malaria as a cause of ulcer of the stomach. In burns of the body, in the stages of shock and collapse, there is a great determination of blood to the splanchnic and other areas, and ulceration of the duodenum and stomach is seen. The fact of the ulceration in burns taking place about the tenth day has been thought by some to point to septic emboli as the cause, but it is difficult to understand why the emboli in the circulation should generally select the duodenum for their point of attack. In injury to the skin it is not uncommon to have catarrhal inflammation of the mucous membrane of the upper part of the small intestine and stomach and not infrequently mucous and submucous hæmorrhages, and in three cases of duodenal ulceration examined by Fenwick he found evidence of them being secondary to hæmorrhage. It is then probable that ulceration of the intestine in burns follows upon small hæmorrhages in the congested mucous membrane, the congestion being the result of shock and an abnormal collection of blood in the splanchnic area.

Splanchnic stasis considered in the etiology of gastric ulcer.—In considering the etiology of gastric ulcer we have not sufficiently recognised the important part the nervous system plays in gastric disorders and still less have we considered any circulatory changes in the condition except those in the stomach itself. We must fully recognise that branches of the cœliac arteries which supply the stomach with blood carry with them nerves from the cœliac plexus, giving a direct connexion with the great sympathetic plexuses in the abdomen. We then realise that any disturbance of these

[9] I have used Oliver's hæmadynamometer and Martin's modification of the Riva-Rocci instrument, but the compressed air manometer with spirit index designed and described in THE LANCET of July 22nd, 1905, by Dr. George Oliver I have found particularly sensitive as well as reliable.

[10] Allbutt's System, vol. iii., p. 199.
[11] Brit. Med. Jour., vol. ii., p. 1383, 1905.
[12] Allbutt's System, vol. viii., p. 51.
[13] Brit. Med. Jour., vol. i., 1906, p. 308.

nerves may affect the circulation, not only locally but generally. "There is much to be considered about the solar and cœliac plexuses in relation to simple ulcer of the stomach and to nervous distress in the stomach region."[14]

I have shown that a predisposition to gastric disorders is commonly associated with a functional disturbance of the nervous system and tendency to circulatory changes and I have pointed out that the stomach disturbances may arise through prolonged mental influences, irritation of food, or by changes of external temperature, for facts show that there may be a plus amount of blood in the splanchnic area involving the stomach with a diminution in the periphery under each of these influences. I have also shown that with a similar blood displacement in malaria and burns the stomach and bowel are frequently involved. What I now wish to point out is that such a condition of congestion is liable to be accompanied by hæmorrhages into the mucous membrane and sometimes into the submucous tissue which may be the starting points of ulceration. In the congested stomach mechanically produced in cardiac disease and portal obstruction hæmorrhages are found, and the same are common whenever congestion of the stomach is severe. Fenwick[15] believes that there is congestion of the stomach at the menstrual periods, accompanied by hæmorrhages, and if these are unusually deep and extensive, he thinks that they may be the origin of acute gastric ulceration. But whatever the amount of congestion may be at this time, it is of a temporary character and less likely to be associated with hæmorrhages into the mucous or submucous tissue than the congestion of splanchnic stasis which, once established, may last for weeks or months. It easily follows that some of these hæmorrhages may result in abrasions or erosions which may be prevented from healing by the irritation of the gastric secretion, so commonly hyper-acid, and proof is not wanting that the gastric juice does act in an irritating way upon the injured mucous membrane. For when the œsophagus is seen ulcerated it is generally in that part which comes in contact with the regurgitated acid chyme. The same applies to the duodenum, which is less often ulcerated in the lower end, where the chyme is alkaline, than near the pylorus, where the chyme is acid. We conclude, then, that acute ulceration may have its origin in a hæmorrhagic erosion, acted upon by the acid secretion of the stomach, and that this may become chronic if steps are not taken to relieve the congestion which has caused the hæmorrhage and to prevent its repetition. In the etiology of many cases of ulcer several causes operate together, some being immediate and some remote.

Oral sepsis is a secondary cause.—Oral sepsis has been urged as a cause of ulcer and may be a powerful agent in infecting any hæmorrhagic erosion of the mucous membrane and in furthering ulcerative changes. But I cannot think that micro-organisms from the mouth will infect the mucous membrane of the stomach, unless there is some breach of surface, such as the superficial ulceration seen in chronic catarrh and congestion following hæmorrhages, for we see very carious teeth and no gastric ulcer, and, on the other hand, gastric ulcer with no signs whatever of oral sepsis. Oral sepsis, however, may prove to be an important complication of any circulatory disturbance involving the stomach.

Thrombosis and anæmia.—Virchow thought gastric ulcers originate through embolism or degenerative changes in the arteries arresting the circulation, a condition of infarct being produced and necrotic changes in the mucous membrane. The slowness of the circulation in the stomach in a state of congestion may favour thrombosis of its vessels but it has been seldom seen post mortem with gastric ulcer, whilst hæmorrhages and hæmorrhagic erosions are common. Degeneration of vessels is met with at a later period of life than that in which a majority of cases of gastric ulcer occur but may be the cause of thrombosis and ulcer in older subjects. Anæmia has been looked upon as an indirect cause of gastric ulcer and undoubtedly we see it in acute as well as in chronic ulcer but in the latter condition it must be considered as partly due to malnutrition. I am convinced, however, that true anæmia in gastric ulcer is not so commonly seen as what George Oliver[16] describes as a quasi-anæmic appearance, the result of splanchnic drain, and in the latter condition he says: "The examination of the blood does not, as a rule, support the theory of anæmia, for the proportion of the hæmoglobin and of the red discs fall well within the normal limits of variation. The pallid appearance is not due to an impaired quality but to a reduced amount of blood in the vessels."

Hæmatemesis of splanchnic stasis.—I have no doubt that many cases of hæmatemesis are due to congestion of the mucous membrane of the stomach, part of a splanchnic stasis, no ulceration being present, and Mayo Robson has described two cases he explored and in each a general rather than a local bleeding was found. Bertrand Dawson[17] has named these cases of hæmorrhagic gastralgia and has pointed out the difficulties of diagnosis from ulcer. Hale White[18] describes similar cases which he says are not due to ulceration and occur in women chiefly between 30 and 40 years of age. He makes no mention of any circulatory disturbances having been noticed and I think that probably many of them are due to congestion, part of a splanchnic stasis. As pointed out by Essex Wynter,[19] 80 per cent. of cases of hæmatemesis occur in young women with hardly a death and hæmatemesis in the wards of a hospital is a rare occurrence. It is the rest, warmth, and freedom from exposure there which, by relieving the congested condition of the stomach, account for this.

Simple or atonic dilatation and splanchnic stasis.—In taking part in the discussion upon the causes of dilatation of the stomach introduced by Professor T. Clifford Allbutt at Manchester in 1902, I pointed out the disturbance of the circulation commonly seen with gastric dilatation. More extended observations have shown very great peripheral changes with stomach dilatation, lividity of the extremities having been observed in some cases. Dilatation may follow upon gastric catarrh, the catarrh being due to some irritant in the stomach, or it may be part of a general neurasthenia produced by mental anxiety, whilst in others the changes in the peripheral circulation are consequent upon exposure and if there is a very sensitive vaso-motor system it would appear to be the disturbing factor. In all the result is the same: there is too much blood in the splanchnic area and too little in the periphery. Loss of motility in the stomach is succeeded by dilatation and as a result of food fermentation toxins are generated which sometimes create other disturbances shown by vertigo, tetany, and palpitation.

Circulatory changes in 32 cases of gastric and duodenal ulcer operated upon.—The diagnosis of gastric ulcer is not always easy, but in order to satisfy myself that the circulatory disturbances described as found with gastric disorders are present in cases of ulceration, I have investigated this point in 31 cases in which gastric or duodenal ulceration has been proved by operation. I am indebted to my surgical colleagues at the Royal Halifax Infirmary, past and present, and to Mr. H. Littlewood and Mr. B. G. A. Moynihan of the Leeds Infirmary, who have allowed me to investigate some of their cases operated upon for perforation or gastro-enterostomy. These consisted of 24 cases of ulcer of the stomach in young females which had perforated, one of gastric ulcer in a male and another in a female, for which gastro-enterostomy had been performed, and six duodenal ulcers in men. In 18 of the 26 gastric cases, the patients described themselves as having been very sensitive to cold all their lives with a poor peripheral circulation; seven stated that the coldness of the extremities and general sensitiveness to cold temperatures had come subsequently to the gastric disorder and that they were normal before, thus suggesting a stomach origin of the circulatory disturbance. In one case of gastric perforation the patient expressed herself as having been always warm. Of the six duodenal cases two expressed themselves as having been always abnormally sensitive to cold and dyspeptic symptoms, but four stated they had been naturally warm until the onset of the gastric trouble. Practically all would be described as of a nervous temperament and nearly all gave a history of worry, which would affect the gastric circulation through another source already described. Brinton, years ago, pointed out that there was a history of worry in nearly all of his cases of ulcer. The other striking feature in this analysis is the fact that 20 of the 31 cases gave a history of having had a weak peripheral circulation for the greater part of their life and of being very easily influenced by external temperature. For the most part they were working people, worried and much

[14] H. G. Sutton: Lectures on Pathology, p. 283.
[15] Ulcer of the Stomach and Duodenum, p. 95.
[16] Blood and Blood Pressure, p. 269.
[17] Brit. Med. Jour., vol. ii., 1902, p. 1709.
[18] THE LANCET, June 29th, 1901, p. 1819.
[19] Brit. Med. Jour., vol. ii., 1902, p. 1710.

exposed in gaining their livelihood: the very life to augment any loss of circulatory balance.

Suggestions in treatment: The importance of external warmth.—The general lines of treatment of gastric disturbances are familiar to all, but one important consideration as an outcome of this inquiry demands our special attention. We must not confine ourselves to the stomach only but remember the disturbance of the nervous system and circulation and not only give rest to the stomach but obtain the same for body and mind if possible. If there is ulceration or dilatation this is best accomplished by placing the patient in bed and by doing so we assist the next point in treatment, which is the restoration of the disturbed circulation. To accomplish this heat must be applied, by the use of hot bottles, to the feet and other cold parts. A large amount of blood is thus drawn from the splanchnic area to the limbs and skin surface and a better circulation soon relieves the splanchnic stasis which has produced the congested stomach. As the general condition improves and the circulation becomes more normal, exercise is most helpful. Most patients find out the necessity of warm clothing and apply it to the most sensitive parts and this must be encouraged by us. In the case of gastric dilatation in addition to warmth, washing out of the stomach and anti-fermentative treatment are important. The importance of recognising symptoms of failure of the peripheral circulation while occurring during the course of gastric disease cannot be over-estimated when we remember that more blood to the congested mucous membrane of the stomach must be detrimental to the healing of an ulcer. For six or seven years I have treated all cases of gastric disturbance, including chronic catarrh, ulcer, and dilatation, in my wards in this way and I always give the strictest instructions as to the importance of warmth in similar cases when in the out-patient department. The same treatment must be adopted to counteract the circulatory disorder in the case of chronic ulcer. But when this and other treatment have failed, and being satisfied that the ulcer is chronic, the operation of gastro-enterostomy should be seriously considered, for only then is the ulcer given an opportunity of healing and with the removal of the source of irritation the circulatory disturbance may disappear. Other local treatment to correct the tendency to splanchnic stasis must be directed to the splanchnic area by means of a well-applied broad bandage or an abdominal belt, which by exercising pressure tends to express blood from this part into the general circulation. We must also fully recognise that there is a serious loss of nerve tone and endeavour to reinstate it.

In conclusion, I strongly urge that inasmuch as nearly all or many peripheral vaso-motor disturbances of the circulation may be associated with circulatory disturbance of some organ or organs they should receive more attention at our hands, and that their cause should be investigated and treatment adopted with due appreciation of the value of warmth in remedying the same. We use very active treatment to restore the circulation in the condition of collapse and shock, but we may be too slow in recognising and treating the lesser disturbances of the peripheral circulation concerned not only in gastric but in other disorders. I only wish that the poor who suffer thus could be taught how much comfort they might obtain and at what a trifling cost by the use of the hot bottle. The mouth should be examined for carious teeth or other sources of infection in all cases of gastric disorder inasmuch, as already stated, any superficial ulceration of the stomach may become infected by organisms from the mouth and develop into deeper ulceration. It is equally important to treat anæmia if present, for its existence will hinder any reparative process.

Harrogate.

ASSOCIATION OF MEDICAL MEN RECEIVING RESIDENT PATIENTS.—The annual general meeting of this association was held on March 30th at the offices of the British Medical Association. There was a good attendance of members. In the absence of the President, Dr. Walsh, through illness, the chair was taken by Dr. H. Forbes Winslow, Vice-President. The minutes of the previous general meeting having been read and confirmed the honorary secretary read a statement of the affairs of the association which led to an interesting discussion, and was considered to be of a satisfactory nature. The membership is 93, of whom 13 are life members. Dr. Walsh was unanimously re-elected President and the other officers having been re-appointed the proceedings terminated with a vote of thanks to the executive.

A CASE OF GLIOMA OF THE PONS.

BY G. SCHORSTEIN, M.D. OXON., F.R.C.P. LOND.,
PHYSICIAN TO THE LONDON HOSPITAL, ETC.;
AND
A. J. WALTON, M.R.C.S. ENG., L.R.C.P. LOND.,
HOUSE PHYSICIAN TO THE LONDON HOSPITAL.

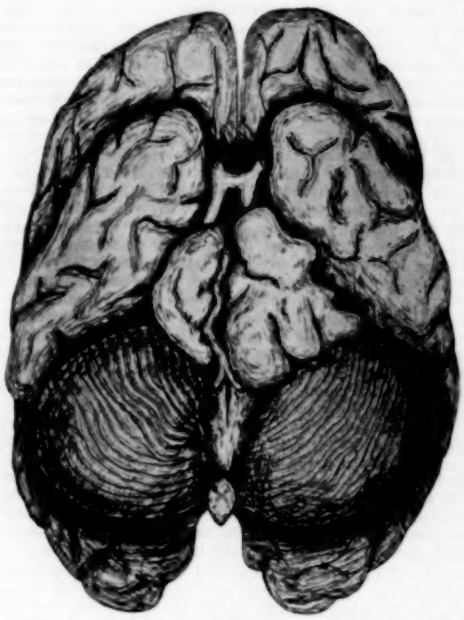
THE patient, a male, aged four years, was admitted to the London Hospital on Sept. 9th, 1905. For two months his mother noticed that he had a squint, the left eye turning inwards; since then he had gradually got weak on his legs and for the last two or three weeks she had noticed that his speech had got weaker and slurring. His previous health had always been good. There was no evidence of any congenital syphilis. On admission the patient was unable to walk, owing to paralysis of the legs. The right leg was somewat spastic and could not be moved. The left leg was only paralysed in the foot, movement occurring both in the hip and knee-joints. There was marked loss of power in the right arm, there being no grip, whilst the movements of the elbow and shoulder were only just present. The left arm was normal. There was definite paralysis of the left third nerve with internal strabismus, the secondary deviation being more marked than the primary. There was paralysis of the left side of the face, of the nerve type, the corrugator supercilii and orbicularis oculi muscles being both affected. The knee-jerks were increased, more especially those of the right side. Ankle clonus and Babinski's sign were not obtained. The ocular fundi were clear and there was some incontinence of urine of the reflex type, the bladder filling and emptying involuntarily.

On Sept. 20th the following note was made. "For the last two days there has been a good deal of difficulty in swallowing, but the palate moves well. The tongue is protruded to the right. The left arm and leg are now spastic, but not to so marked a degree as those on the right. The reflexes are also more marked on the right side. Since admission there have been several fits; during these the patient remains quite conscious but the muscles, and more especially those of the left side, twitch, so that the left arm and leg are continuously in action. The paralysis of the cranial nerves is unaltered. The fundi remain clear; temperatures taken on either side of the body show no marked differences." A diagnosis of a tumour in the left half of the pons was now made. On the 25th there was a slight fit, lasting for a few minutes only, during which both sides of the body twitched. The paralysis of the right arm had become rather more extensive. By the 27th the condition was worse; there was now difficulty in taking food, the act of swallowing not being easily performed. There was some loss of power over the trunk muscles, so that the child was unable to sit up. There was some difficulty in getting the bowels open, so that purgatives had to be administered. On the 29th the child was in a much more helpless condition, being unable to move. It was now necessary to feed him with a nasal tube. The fits were more frequent, there having been three in the previous week; they were of the same nature as before. There was no incontinence. The following notes were taken as to the conditions of the fundi: "Right: the disc shows a well-defined and pigmented border except at the lower and inner side where the edge is ill-defined and the disc somewhat swollen The vessels are not buried, there is no exudate of lymph along them, and there are no hæmorrhages. Left: this is similar to the right but the edge is not so well defined." In the hope that the tumour might be gummatous in nature three-grain doses of potassium iodide were given daily in a simple mixture.

On Oct. 3rd it was noted that the condition was gradually getting worse. The right arm was very weak so that articles could not be grasped. The right leg was spastic and the reflexes on that side were much increased. The condition of the left leg had not changed; the movements of the left arm were incoördinate. On the night of the 2nd there was another fit which lasted five minutes. After that the right side of the palate did not move so well as the left on movement, the whole palate being drawn over to the left. The tongue was protruded to the left. At 7 P.M. on the 5th there was a severe fit lasting for a quarter of an hour, during

which all the muscles of the body twitched, those on the left side moving more than those on the right. This was followed by unconsciousness, the eyes being closed and the breathing stertorous; this condition lasted until 10.30 P.M. The dose of iodide was increased to five grains. On the 6th the condition was a little improved so that although the patient lay quite still and could not speak he could clearly understand what was said to him, as was shown by movements of the head. The optic neuritis was then quite definite and rather more marked in the left eye. The edge of the disc was much blurred except for a small portion, the vessels being curved and in parts buried whilst an exudate of lymph was seen along them; the physiological cup was quite filled up. The swelling equalled + 4 D. There were no hæmorrhages. By the 20th there was a muco-purulent conjunctivitis of the left eye; the cornea seemed to be quite insensitive but there was sensation to pain on the left side of the face. On the 23rd and 24th the temperature rose, so as to reach 102° on the 24th. The patient was semi-comatose and could not perform voluntary movements even with those muscles which up to that date had remained unaffected. The pupils were contracted almost to a pin-point. This contraction of the pupils and rise of temperature were thought to point to a hæmorrhage having taken place into the substance of the new growth. On the 27th the pupils were more dilated but were irregular, the right greater than the left. They reacted to light but only sluggishly. The temperature was still 102° and there was incontinence of urine. On the 29th there was another severe attack; the temperature, which on the 28th had fallen to normal, suddenly ran up to 105°. The pupils became greatly contracted, the left more so than the right. The patient was completely unconscious and lay in a comatose state, whilst occasional tremors were seen to affect the body chiefly on the left side, these tremors at times being practically of the nature of clonic movements which lasted for some minutes. The respirations became slow and weak and the pulse more and more rapid and feeble until it could no longer be felt at the wrist. This condition lasted until the night when the patient died without regaining consciousness.

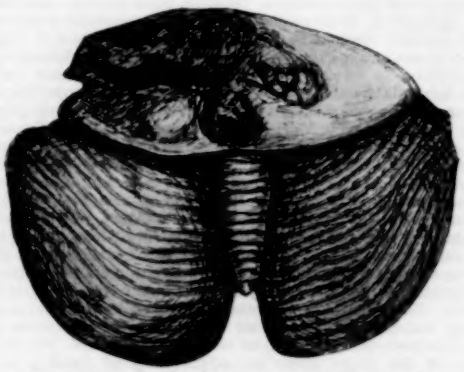
FIG. 1.



View of tumour in the under surface of the brain showing tumour in the region of the pons.

Necropsy.—The changes were confined entirely to the central nervous system. The brain weighed 2 pounds 13 ounces; there were no meningitis and no excess of cerebro-spinal fluid. As viewed from above the brain presented an entirely normal appearance. Beneath the tentorium on the left side of the pons and medulla was a lobulated tumour measuring two inches by one and a half inches. It was soft in consistency and in parts semi-translucent. A section right through showed that the centre of the growth was breaking down and that hæmorrhage had occurred in places. There was no encapsulation, the tumour substance gradually passing into that of the normal brain tissue. The obvious effects of the tumour were compression and destruction of the left half of the pons and medulla, the basilar artery being pushed to the right and making a curved course up the pons. The tumour, though chiefly affecting the left side of the pons, also infiltrated the right side which was enlarged and swollen, so that the normal shape of this side was greatly obscured (Fig. 1). The ventricles were somewhat dilated and contained a slight excess of fluid. After hardening the colour and consistency of the tumour were

FIG. 2.



Under surface of the cerebellum and pons. The whole of the left and part of the right side of the pons are occupied by growth, in many places showing degenerative and hæmorrhagic areas.

similar to that of the normal brain tissue. It was lobulated and firm and passed insensibly into the surrounding parts, so that although the normal structure of the pons and medulla was destroyed and replaced by the growth, yet no delimination could be discovered between the growth and the surrounding tissues. The fifth, sixth, and seventh nerves on the left side were much displaced and their fibres were separated; as far as could be judged the nuclei of these nerves were completely destroyed on the left side. On the surface of the growth no transversely running fibres of the normal pons could be made out. The section showed that the substance of the growth was somewhat darker than that of the surrounding tissue, but there was no sharp line between. Around the spreading edge were many small vessels easily discernible with a lens. Much of the centre of the growth had broken down and fallen away, leaving irregular cavities. Here and there were patches of hæmorrhage (Fig. 2). The growth was divided into two portions, right and left, microscopic sections being cut right through each portion. Sections stained with polychrome methylene blue and general cellular stains showed that the right half of the pons was made up of a large number of cells closely crowded together and with, in portions, but little intercellular tissue; these cells under higher powers showed definite mitotic figures and were evidently actively dividing. In the central parts of the growth they were partly degenerate. The growth was highly vascular, the vessels being especially numerous and forming an ill-defined circle at what was evidently the actively growing edge. Apart from this, however, no edge could be defined, the cells gradually becoming less numerous, until in the farther portion of the right side of the pons they represented only the normal number of glial cells. In the left half no portion of the normal pons could be made out, the transversely running fibres, as well as the pyramidal tracts, being apparently obliterated. In the latter parts especially no axis-cylinders could be seen. In the right half many fibres were left, although their anatomical arrangement was greatly disturbed. Many patches of hæmorrhage were seen, especially in the centre of the growth, and many of the smaller of these could be

traced to the vessels from which they had sprung, these vessels having in all cases quite definite walls. Thin sections stained by Heidenheim's method and examined with high powers showed that the intercellular tissue was formed of many fibrils which could in many instances be traced to the cell walls. These fibrils were branching and closely interwoven, the cells being unquestionably glial in nature. By this means also the mitotic division of the nuclei could easily be made out. Serial sections were made through the cord, six portions being selected—viz., upper cervical, mid-cervical, dorsi-cervical, mid-dorsal, lumbar, and sacral. These were stained both with Busche's fluid and with hæmalum and van Gieson's stain. Contrary to expectation those stained with Busche's fluid showed no degenerated fibres in any part. This was confirmed by the fact that the sections stained with van Gieson's stain showed the axis-cylinders stained a bright red, whilst the medullary sheath of Schwann was stained yellow. Hence one must assume that the cells of the new growth had only pushed aside the axis-cylinders without destroying their anatomical continuity, although clinically their function was lost and sections through the pons failed to reveal their presence, especially as regards those fibres of the pyramidal tracts.

Clinically this was a typical case of tumour of the left half of the pons, there being definite paralysis of the left sixth nerve and left half of the face, with paralysis of the upper segment type of the right side of the body—"crossed hemiplegia"—the left side of the body being only affected as the process spread and although the irritation did not affect the cortical cells themselves but only the neurons as they passed through the pons, yet epileptiform fits resulted. The presence of hæmorrhages could be diagnosed by the sudden rises of temperature and the pin-point pupils. It is of interest that the optic neuritis was late in making its appearance and this in spite of the fact that in cases of tumour below the tentorium this is said to be an early sign.

Pathologically gliomata are purely of epithelial origin, being formed by an overgrowth of neuroglial cells which are developed from the spongioblasts of the primitive neural tube; hence, as there is no trace of meso-dermal tissue they can in no way be considered as sarcomata and the name gliosarcoma, as sometimes given them, is erroneous. They are purely local in their growth, never leading to secondary deposits, and do not involve the bony parts of the cranium, their growth seeming to be limited by the membranes of the brain. According to Stroebe they may be of the following five varieties: (1) the richly cellular; (2) the fibrillary; (3) the spider-celled; (4) the spindle-celled; and (5) the giant-celled; the present example, belonging to the first type, being formed of a large number of small round cells. It is of great interest that, although the tumour was so extensive and had broken down so much in the centre, yet this had led to no destruction of the neurons and there was no secondary degeneration in the cord.

ON THE RELATIONSHIP BETWEEN GRAVES'S DISEASE AND ACUTE RHEUMATISM.

BY W. E. ROBINSON, M.B., B.CH. OXON.

THE following case of Graves's disease, which came under my notice during the month of May, 1905, is of interest in that a definite attack of acute rheumatism developed about six months after the first signs of Graves's disease. The case had proved somewhat intractable to treatment but the acute rheumatism yielded very readily to salicylate of sodium and at the same time there was very pronounced diminution of all the signs of Graves's disease, notably of the swelling of the thyroid gland, the exophthalmos, and the tremors. The pulse-rate continued to be higher than normal but this also was considerably lessened.

The patient, a girl, aged 18 years, had been sent home from her duties on account of a very irritable cough. There was some irregular pyrexia, the temperature varying between 99° and 101° F., and there was tachycardia, the pulse-rate being 130 per minute. There were no pulmonary or heart symptoms. The girl had never ailed before; the parents both gave a strong rheumatic history. After a fortnight in bed the cough was less but not gone; the tachycardia still persisted; in addition, von Graefe's lid symptom was noted and there were fine tremors of the fingers. It was clear then that the case was one of incomplete Graves's disease, and later the thyroid gland became swollen, at first in the middle line, then on the right side. The eyelids were very tremulous and were pigmented; later still patches of pigment appeared over the face as large freckles. The treatment adopted was rest in bed, painting with liniment of iodine over the enlargement of the thyroid gland, and medicinally belladonna, digitalis, and carbonate of ammonium. No special dietary was ordered, only the avoidance of heavy food whilst in bed. The temperature soon subsided and after three weeks in bed the patient was allowed to sit up for a portion of the day. Violent pulsations in the neck and over the whole of the chest were a trouble to the patient. The tremors also were very marked, especially after any slight exertion. In August, nearly four months after the onset of the illness, there was a sudden attack of tonsillitis and acute iritis in both eyes. There were no joint symptoms, but in view of the strong family history of rheumatism the conclusion was that these symptoms were manifestations of rheumatism and the patient was treated with salicylate of sodium in ten-grain doses every four hours, while locally dilute nitrate of mercury ointment with atropine was applied to the eyes. The tonsillitis quickly cleared up but the iritis came and went for some little time with aggravating persistence. After a month the patient was better and the treatment by salicylate of sodium was discontinued. The condition then was as follows. The pulse was 130, the heart was not enlarged and there were no adventitious sounds, the vessels in the neck were pulsating, the thyroid was moderately enlarged, and there were slight exophthalmos and von Graefe's lid sign, as well as fine tremors of the hands, the tongue, and the eyelids. After a month of varying health there suddenly came an attack of arthritis in one knee-joint. This was accompanied by a temperature of 102° and some iritis, and within a very little while pain, swelling, and redness of the other knee, of both ankles, and of one elbow supervened. It was a typical attack of acute rheumatism, which was treated with 15-grain doses of salicylate of sodium every three, and later every four, hours; milk diet and rest in bed were ordered; also the throat at first was a little sore, but it quickly got well. The patient was in bed for one month, the joint trouble being very obstinate in one of her ankles. Her general health, however, greatly improved. The pulse-rate dropped to 110 and later to 90; the tremors were only just visible; the swelling of the thyroid gland was gone and von Graefe's lid sign could no longer be obtained. Owing to periodic attacks of iritis the salicylate of sodium was given in ten-grain doses for a period of three months and at the end of that time the patient was practically well. Tachycardia up to 120 per minute and tending to increase under observation was noted. There was, however, no distress from pulsations of the heart or of the great vessels, the tremors were barely noticeable, and there was no exophthalmos or swelling of the thyroid gland.

It seemed natural after watching this case to inquire into the relationship of Graves's disease to acute rheumatism. The cases within my own experience during the last three years number five. Of these, one patient, a young married woman, cannot be traced. Of the remainder, one patient, a woman aged 64 years, developed the characteristic symptoms in a marked degree about three months after a severe attack of "rheumatism" in one shoulder-joint. The pain in this joint was very persistent and yielded but slightly to salicylate of sodium; there was no rise of temperature accompanying the pain. The second of these patients, a girl aged 15 years, gave no history in herself of rheumatism, but her mother is frequently laid up with attacks of subacute rheumatism in the hands and feet. The third patient, a woman aged 54 years, gave no history of rheumatism. The last case is the one reported above.

To arrive at an estimate of the percentages of cases of Graves's disease which give a history of acute rheumatism the reports of the medical cases of Guy's Hospital, London, for the last 17 years—1888 to 1904—have been analysed. During this period the total number of cases of Graves's disease in that institution, excluding re-admissions, was 127. Of these, 24, or 18·9 per cent., gave a definite history of acute rheumatism in themselves; 12, or 9·45 per cent., gave a history of acute rheumatism in their family but not in themselves; the remaining 89 gave no history of acute rheumatism

in themselves or family, but in many of them (25) rheumatic manifestations were noted, such as tonsillitis, pains in the joints and limbs, and rashes, as erythema nodosum, whilst in 16 others rheumatic manifestations were noted in their family history. Taking the 24 cases which gave a history of acute rheumatism the relation of acute Graves's disease to the attack of acute rheumatism is not marked by any constant interval. In eight the two diseases were concurrent, or very nearly so, the acute rheumatism as a rule immediately preceding the Graves's disease. Of the others the interval varies between two and 19 years. Usually the sequence is acute rheumatism, then Graves's disease; in three cases this is reversed, while in one case an attack of acute rheumatism takes place between two attacks of Graves's disease.

Turning to the literature, during the past 20 years there have been many suggestions as to the *causa causans* of Graves's disease, though the discussions on the pathology have for the most part centred round the secretion of the thyroid gland, its hyperplasic condition, its association with a persistent thymus in Graves's disease, and the lesions in the central nervous system, which last are particularly dwelt upon by Dr. W. S. Greenfield[1] in his Bradshaw lectures in 1893. The association of acute rheumatism and Graves's disease noted by Fagge in his "Principles and Practice of Medicine,"[2] and also by Byrom Bramwell,[3] was first prominently brought out in a paper read by Dr. S. West[4] before the Ophthalmological Society of the United Kingdom in 1886. This paper was based on a series of 38 cases in which eight patients, or rather more than 21 per cent., gave a history of acute rheumatism and three more had heart disease, probably explained by acute rheumatism in childhood. Four years later, in 1890, Dr. Hector W. G. Mackenzie[5] pointed out that amongst other causes quinsy and acute rheumatism are antecedent in a significant number of cases. He collected a series of 40 cases in which nine patients had had quinsy and five had had acute rheumatism. He also called attention to the fact that amongst the symptoms painful cramps are frequent. Out of 15 cases 13 patients gave a history of these cramps and the remaining two had attacks of rigidity of the hands. These spasms, which may also affect the legs and feet, are rather persistent, resembling tetany.

In 1893 Dr. Thompson[6] of New York quoted a series of eight cases. Of these the patients in Cases 2 and 3 were sisters; both had had rheumatism, and one had a permanent lameness of one hip. In Case 5 the patient had had both rheumatism and chorea in childhood; she was the mother of two children, daughters, both of whom presented symptoms of chorea. The patient in Case 6 developed the symptoms at 65 years of age. She had a marked family history of rheumatism and was also of interest in that she had a daughter who at 35 years of age developed myxœdema. Dr. Thompson in his article discusses the pathology and treatment. He disposes of the nervous theory—that it is a bulbar lesion—by shortly stating that it is never found. He curiously does not call attention to the large percentage of his cases which give a rheumatic history but he argues that a toxin, probably of digestive origin, is at the root of the trouble. In support of this he quotes a case which did remarkably well when treated by rest in bed and a diet consisting only of matzoon—a fermented milk food—and stale bread, but which relapsed on resuming a meat diet. This case again improved on the milk-and-bread diet but again relapsed and terminated fatally on returning to, and persisting in, a meat diet. He therefore based his treatment on intestinal antiseptics and dieting.

In 1895 Dr. C. O. Hawthorne[7] described a case of Graves's disease in a patient suffering from articular rheumatism and mitral stenosis. The patient, a woman, aged 25 years, was admitted into hospital for acute rheumatism. She gave a history of two previous attacks, one ten and the other two years previously. There was evidence of endocarditis—a long-drawn-out auriculo-systolic murmur—and later the patient showed signs of pericarditis. During her stay in hospital it was noted that she had some of the cardinal symptoms of Graves's disease—namely, proptosis with lid symptoms and tachycardia. There were no enlargement of the thyroid gland or fine tremors.

In 1903 Dr. R. Ll. Jones[8] of Bath contributed a paper on the Association of Graves's Disease with Rheumatoid Arthritis. In a review of a series of cases he points out not so much the affinity of the two diseases as that they frequently coexist or occur separately in the same subject. After calling attention to the so-called secondary features of Graves's disease—pigmentation of the skin, urticaria, hot flushing, œdema (transient and permanent), excessive sweats, digestive and menstrual disturbances, &c.—he shows that rheumatoid arthritis exhibits the same features and attempts to prove that the two diseases have a common etiological factor. Clinically rheumatoid arthritis is frequently preceded by rheumatism which may be acute or only obscure pains or cramps in the limbs. Chorea, too, he notes as a forerunner and the sequence is often rheumatism, chorea, and rheumatoid arthritis. He suggests that etiologically there are two factors: (1—fundamental), a neuropathic diathesis; and (2—accidental), a possibly toxæmic source—e.g., oral sepsis, dilated stomach, &c. He further points to the great similarity between the muscular cramps of rheumatoid arthritis and the curious phenomenon of tetany in Graves's disease, which, he says, may readily be explained by his causal theory—a toxæmia. Of his 20 cases six patients gave a history of sore-throat alone, three of rheumatism and tonsillitis, two of rheumatism, and one of rheumatic fever. In two cases the sequence was rheumatism, Graves's disease, and rheumatoid arthritis.

In the same year Dr. C. G. Chaddock[9] published an article on the treatment of Graves's disease by salicylate of sodium. He gives a series of five cases successfully treated by this drug, although from none of them was a history of rheumatism obtained. His attention had been drawn to this line of treatment by a paper of Babinski,[10] read before the Neurological Society of Paris in 1901. In this paper Babinski says that he has treated several cases of Graves's disease with salicylate of sodium and had had very satisfactory results. In particular he describes these cases which are here reproduced.

CASE 1.—The patient was a woman, aged 28 years, in whom the disease commenced in the middle of 1898; it steadily progressed until the end of that year, and in January, 1899, it rapidly became worse. The physical signs then were: pulse 140; marked exophthalmos, pulsating thyroid, and muscular tremors. Salicylate of sodium was prescribed in strength of three or four grammes a day. She was next seen in October of the same year when the notes were: "Pulse 80; goitre and tremors gone; exophthalmos diminished; strength much improved and considerable increase in body weight." Fifteen months later, at the end of 1900, the patient was again seen and the notes stated that the cure of the goitre, the tremors, and the tachycardia was complete, and that the exophthalmos had completely disappeared.

CASE 2.—The patient was 41 years of age. The physical signs were bilateral exophthalmos, tachycardia, a pulse-rate of from 120 to 130, fine tremors of hands and arms, but no enlargement of the thyroid gland. The case was treated with salicylate of sodium three grammes a day. In less than a month the tachycardia had nearly disappeared. This treatment was continued on and off according to the prominence or the reverse of the symptoms for nearly two years when the notes were: "Exophthalmos on the left side gone, on the right side only slight; no tremors; pulse-rate 80 to 90 per minute."

CASE 3.—For this case apologies are made as being one of incomplete Graves's disease. The only symptom was a goitre; but it was large and markedly pulsating, and had lasted for 12 months. On the treatment with salicylate of sodium three grammes a day it rapidly subsided, and in two months' time it was gone.

From these various writings one would be rash to draw any absolute conclusions, or, indeed, to go farther than Dr. Hector Mackenzie in saying that the connexion between Graves's disease and acute rheumatism is suggestive. Babinski appears to have satisfied himself of the usefulness of the drug salicylate of sodium without tracing a history of rheumatism in his cases. But with regard to those he publishes the objection may be raised that his treatment (in the two complete cases) was spread over a period of two years—a length of time in which one would expect the symptoms of Graves's disease to abate, if not entirely to disappear, without any special drug treatment. In Chaddock's cases the length of treatment is not mentioned. In the case upon which this paper is based the drug was administered with but few intermissions, and those of very short duration, for six months; and it would seem from this that the treatment must be persisted in for some time.

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[1] THE LANCET, Dec. 16th, 1893, p. 1493.
[2] Principles and Practice of Medicine, second edition, vol. i., p. 1012.
[3] Atlas of Clinical Medicine, vol. ii., part 3, p. 94.
[4] Transactions of the Ophthalmological Society of the United Kingdom, 1886.
[5] THE LANCET, Sept. 13th, 1890, pp. 545, 601.
[6] New York Medical Journal, 1893, vol. lvii., pp. 601-605.
[7] Glasgow Medical Journal, 1895, vol. xliii., p. 446.
[8] Brit. Med. Jour., vol. i., 1903, pp. 1015-1019.
[9] Transactions of the Amm. Medical Association, Chicago, vol. xl., p. 1060.
[10] Du Traitement de la Maladie de Basedow par le Sod. Salicyl., Extrait de Comptes Rendus de la Société de Neurologie de Paris, Séance du 7 Février, 1901.

The theory that a toxin is the prime cause of Graves's disease, put forward respectively by Jones of Bath and Thompson of New York, has nothing to support it in the cases quoted. Rest in bed and a milk diet are undoubtedly the correct treatment for all cases in the acute stage and if any good can be derived from the so-called intestinal antiseptics doubtless these cases will be benefited by them.

The percentage of cases with a history of acute rheumatism in Dr. West's series is very closely borne out by my own series—21 per cent. in the former and nearly 19 per cent. in the latter; and it seems probable that in the future, with more care in obtaining their history, many more cases will be found with a definite history of acute rheumatism than heretofore. It was not always asked for and in several instances it seems reasonably clear that what really was acute rheumatism has been loosely described as rheumatism or "a touch of rheumatism."

It appears, then, that though a definite relationship between Graves's disease and acute rheumatism has not been established yet the following questions may well be asked: 1. Is Graves's disease due to a rheumatic diathesis? 2. Is it due to a toxin or toxins produced by acute rheumatism? 3. Is it an alternative set of symptoms to the more usual articular lesions in acute rheumatism? In other words, is the hyperplasia of the thyroid gland a true rheumatic affection? And though one cannot at once hope for an answer yet it would seem to be a logical deduction from the above to treat a series of cases of Graves's disease in a routine way with sodium salicylate. The results would be highly interesting to compare with those already published.

Sonning, Berks.

TWO CASES OF OTITIC LATERAL SINUS PHLEBITIS, ONE COMPLICATED WITH CEREBELLAR ABSCESS.[1]

BY DUNDAS GRANT, M.D., F.R.C.S.,
SURGEON TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL.

CASE 1.—*Thrombo-phlebitis of the bulb of the jugular vein and cerebellar abscess; ligature of the vein; later evacuation of the sinus and bulb; drainage of the cerebellar abscess; recovery.*—The patient, a man, aged 23 years, was referred to me on Oct. 30th, 1905, on account of dulness of hearing and discharge. Previously he had been giddy, with retching but not real vomiting; on the day before he had an attack of cold and shivering with actual vomiting. He had been the subject of chronic purulent discharge from the right ear of several years' duration. His left foot was weaker than the right and the knee jerk was increased. His pupils were normal but he had slight nystagmus on looking to the left. The discharge was found to come from the attic and there was no perforation sound on inflation. There was no doubt as to the necessity for at once performing the radical mastoid operation and it seemed very probable that there was some more serious condition behind the disease in the middle ear.

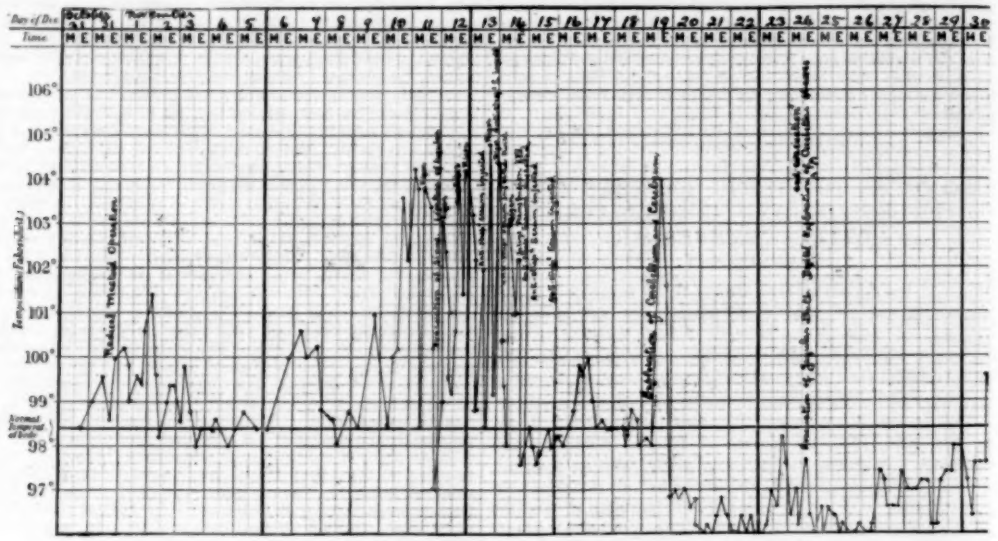
On the following day the radical mastoid operation was performed at the Central London Throat and Ear Hospital in the usual way. The antrum was found full of granulation tissue, the disease extending into the mastoid cells which were opened up. The sickness continued for two days and when the vomiting passed off ineffectual retching still remained. The patient complained of great pain over his head and nystagmus was well marked when the eye was turned upwards, outwards, and to the left. The dressing was changed as required until Nov. 10th, when incontinence was noted and the temperature rose to 103·6° F. The blood count showed 4,800,000 red cells and 19,500 leucocytes per cubic millimetre, 60 per cent. being multinuclear and 40 lymphocytes; there were no bacteria. On the 11th in the morning the patient had a rigor lasting 16 minutes. The temperature was 103·8° and in the afternoon he felt hot and had been sweating profusely for two hours.

The second operation was performed, the old wound being reopened and an incision carried backwards at right angles to it along the course of the right lateral sinus. The bone was carefully chiselled away over the course of this vessel which, when exposed, presented a healthy appearance in its posterior part but was abnormally white in the antero-inferior portions, the walls being apparently thickened. No fluctuation impulse could be obtained with one finger on the course of the internal jugular vein in the neck and the other on the vertical portion of the sinus. This was taken as evidence that there was thrombosis between these two points. The sinus was now slit open and found to be partially thrombosed. Blood flowed freely from it above and this was stopped by plugging; a smaller stream oozed from below and this also was temporarily plugged. I then exposed the internal jugular vein in the neck above the entrance of the common facial; it was so collapsed and small as almost to simulate the vagus nerve and the common facial was distended as if it had already begun to take up the collateral circulation. Ligatures were applied at two places above the entrance of the common facial, the lower being the first tied; from the upper part before ligature blood was allowed to ooze. A probe was passed up into the bulb of the jugular and then a syringe was placed in the lumen of the vein to exercise suction but no pus or clot was withdrawn; the wound in the neck was stitched with silk sutures, a small tube being left in for drainage. Going back to the retro-auricular operation wound, the plug from the lower part of the sinus was removed and the freest possible flow was allowed to continue for a short time for the purpose of washing out the channel. A plug was then re-inserted.

On Nov. 12th in the morning the patient was subjectively much better; the temperature was 99·6° and the pulse and respirations were in proportion. The head was clear and the tongue was moist. At 9.30 in the evening the patient had a rigor and I removed the plugs from the post-aural cavity and wound in the lower part of the sinus. From the latter, venous blood oozed to some extent and the plug was therefore re-inserted. The drainage-tube from the wound in the neck was withdrawn; slight facial paresis, involving chiefly the fibres going to the lips, being then noted. On the 13th an injection of seven cubic centimetres of antistreptococcic serum was given; two hours later the patient was drowsy and the cerebration was slow. The dressing was changed and some sloughing was found to be taking place in the depth of the wound in the neck, which was syringed with biniodide of mercury lotion. The post-aural wound was opened freely, cleansed, and re-dressed. The temperature oscillated between 98·4° and 104·8°. The serum was repeatedly injected, as marked on the chart. On the 14th the patient's temperature remained unaltered and his condition seemed hopeless. At 7.30 at night a subcutaneous transfusion of normal saline solution, to the extent of one pint, was carried out, the place selected being the tissues under the skin of the left thigh (the process lasting 20 minutes). At 10 P.M., two hours after the injection of the saline fluid, the temperature fell and remained nearly normal. On the 15th the dressings were changed and there was no rigor. On the 16th the temperature rose to 99·8° in the evening and when the dressing was changed much fœtid pus was observed in the wound behind the ear. On the 17th the temperature was normal but there was still a large quantity of fœtid pus. On the 18th the patient was dressed at 2 P.M. and two and a half hours later it was noted that he was becoming extremely drowsy, a slighter degree of the condition having been noted by the matron earlier in the day; he had also complained of headache. The drowsiness was more conspicuous in the evening and was deepening into coma; it was only with difficulty that he could be got to give replies to questions. The pupils reacted still to the light and were equal. Nystagmus was present as before and it was now noted that the right hand was weaker than the left, a phenomenon which had been previously sought for and found wanting (the patient is a right-handed man). On the 19th, the same comatose condition being now more marked, lumbar puncture was performed and the cerebellum and temporo-sphenoidal lobe were explored. The lumbar puncture failed owing to the blunting of the point of the needle against the lamina of the vertebra, so that it did not enter the theca. The cerebellum was exposed behind the posterior border of the mastoid and below the inferior curved line of the occipital bone; it bulged distinctly and an exploratory incision was made by means of a long narrow knife in the direction of the internal ear, also in other directions, and an exploring cannula was inserted but no pus was found. The dura mater was stitched together, as were also

[1] A paper read before the Otological Society of Great Britain and cases shown on Feb. 5th, 1906.

the skin and deeper structures. The temporo-sphenoidal lobe was next explored and the meninges over it were found to be bulging, but an exploratory incision and the insertion of the cannula evacuated no pus. Hæmorrhage resulting from the division of the middle meningeal was checked by pressure. The dura mater and soft parts were sutured; the wound behind the auricle was again investigated and thoroughly cleansed. The temperature rose for one reading to 104° and then descended to 96·8°, remaining, as will be seen, much below the normal. On the 20th in the depth of the wound there was a considerable amount of fœtid pus; the parts were cleansed with chlorinated soda, a plug moistened with this being left *in situ*. On the 21st the fœtor was not so prominent and the wound in the neck looked more healthy. On the 23rd the patient was still in a semi-comatose condition, dozing most of the day and answering questions only very slowly when roused. It was again found that the grip of the right hand was less strong than that of the left and that sometimes the patient was seen to lift the right hand by means of the left one. There was some bogginess over the cerebellar incision and on pressure fœtid pus flowed out. The cavity was cleansed and the parts were very lightly plugged, boric fomentations being inserted my finger through the trephine opening and found that it entered a cavity of roughly about half an ounce in capacity, with smooth walls. Into this I introduced a narrow piece of indiarubber tubing and two plugs of iodoform gauze, the extremities of these being brought out through the opening in the reflected section of the flap. The anterior part of the cerebellum to the central site of the remains of the sinus was soft and ragged and it now seemed clear that the bulk of the pus had come from a cerebellar abscess discharging in this position. On Nov. 25th the plugs were removed from the cerebellum and found to be fœtid; the plugs from the neck and post-auricular incision were quite free from fœtor, the abscess in the cerebellum apparently relieving itself entirely through the posterior tube which was withdrawn to the extent of about one inch. On the 26th the wound in the neck was still inactive and covered with brownish pus. There was also some fœtid brownish pus again found in the antro-tympanic cavity and welling up from the cerebellum. The whole wound was carefully irrigated with boric acid and swabbed with biniodide solution; a second very small tube was inserted into the cerebellum and through it the abscess cavity was gently syringed with boric lotion, some pus



Pulse and respirations were practically proportional to the temperature throughout.

applied. On the 24th the state of the patient remained very much the same but it was noted that on pressure above, pus flowed along the course of the right internal jugular vein; the pus (according to the notes) was thick and creamy, differing from that behind the auricle, which was fœtid, and that coming from the cerebellar incision, which was thin, brown, and fœtid. At 6 o'clock in the evening, the condition remaining as above, a probe was inserted into the sinus at the base of the wound in the neck and it was found that it led upwards towards the angle between the mastoid process and the angle of the jaw; another probe was put in the course of the lateral sinus, behind the petrous portion of the mastoid, but the two did not touch.

In order to explore the bulb of the jugular vein I carried the post-auricular incision downwards to meet the wound in the neck and reflected the soft parts off the mastoid process, as also the periosteum, cutting through the posterior belly of the digastric after the superjacent muscular fibres. The mastoid process was chiselled away still further to expose the lateral sinus, and more especially the portion of bone dipping down between the sigmoid sinus and the bulb of the jugular vein, this part of the vessel being freely opened and cleansed. The source of the fœtid pus was, however, not so far discovered. The cerebellum was then once more exposed, but exploration with the knife and pus-seeker afforded, as before, no signs of an abscess. I then being thus extruded; the second tube was left *in situ*; the wound was lightly packed and boric fomentations were applied and changed every six hours. (The pus was examined on the 27th; in it diplococci predominated, which retained the Gram stain; there were a few intracellular micrococci and a few chain cocci.) On the 27th, when the tube was taken out of the cerebellum, the pus, which welled up, was fœtid and darker than on the previous day. The tube was re-inserted and the fomentations were re-applied. In the afternoon I withdrew from the cerebellar cavity, by means of suction, some pus and disintegrated cerebellar substance. The tube was re-inserted and fomentations were re-applied. On the 29th the brownish pus which exuded when Dr. G. F. Buchan dressed the wound was in smaller quantity and the pulsation was very marked. The tube was reduced in size and the dressings and fomentations were re-applied. The patient on this day said that he felt much better; his intellect was considerably brighter and his replies to questions were more readily given. He sometimes spoke of his own accord and took more food; his pulse was more regular and of fair quality. On the 30th the wound looked more healthy; the pus from the cerebellum, though still fœtid, was smaller in quantity; the patient was hungry and continued to have a good appetite. The temperature was 99·5° but fell to normal and from this time forward was on or below the normal line. On Dec. 2nd his general condition was better; his pulse was stronger and of better quality,

his mental condition was quite clear, the wound looked healthy, and the pus from the cerebellum was less fœtid.

From this time the improvement was steady and on Dec. 6th the tube was permanently removed from the cerebellum. The wound began to close rapidly; healthy granulations were present and it has steadily diminished ever since, the patient improving and being now free from all constitutional disturbance. On Jan. 11th, 1906, a small flat sequestrum from the edge of the cerebellum opening was removed and drying powder, devised by Mr. W. Stuart-Low, was dusted over the granulating surface (under this powder, with which Mr. Stuart-Low is making experiments, the epidermisation appeared to proceed with considerable rapidity). On the 18th a granulation was removed from the depth of the tympanum and spirit drops were ordered to be inserted.

The above case presents in a very pronounced way the symptoms characteristic in the first place of otitic pyæmia and subsequently of cerebral or cerebellar abscess. Among the features which seem most interesting are the following. 1. The positive evidence of thrombosis in the jugular bulb. 2. The negative results of exploration of the cerebellum through the post-mastoid trephine opening. In similar circumstances an exploration through the anterior part, on the central site of the sigmoid sinus, would probably have been more positive in results. 3. The effect of the subcutaneous injection of a quantity of normal saline solution which seemed to have been one of the turning points in the case, the antistreptococcic serum which was used, somewhat experimentally, being apparently devoid of result.

CASE 2. *Lateral sinus thrombosis treated by operation without ligature of jugular vein; recovery.*—The patient, a girl, aged 14 years, was first seen on Dec. 1st, 1904, complaining of headache, giddiness, and vomiting. She had been the subject of suppuration in the middle ear for two years and had been suffering from her present symptoms for a fortnight, having had several shivering attacks. Her temperature on admission was 105° F. It was decided to operate at once and the radical mastoid operation was carried out, with the result that the cavities of the tympanum and antrum were found full of granulation tissue but quite free from purulent discharge of any kind. This suggested that the absence of discharge might be looked upon as an indication that there was a purulent focus elsewhere. An opening was therefore chiselled into the bone behind at a slightly higher level than the antral opening; pus escaped under pressure, forcing its way up at the side of a mass of granulation tissue. On enlarging the opening it was found that the pus was coming not merely from the groove of the sinus but from the interior of the venous channel itself, which was filled with granulation tissue and broken-down clot. The broken-down portion was scraped away till blood flowed freely from the posterior part of the sinus into which an iodoform gauze plug was then placed. At the lower part there was found apparently healthy organising clot and this was left *in situ*. The wound was lightly plugged with gauze and an antiseptic dressing was applied. Two days later all the plugs were removed; no hæmorrhage took place. The temperature became normal and never rose above 99·4°. No flaps were cut in the meatus, as it was hoped that what the operator had previously seen would take place—namely, that the membranous part of the meatus would gradually dilate and become fixed to the walls of the cavity by contracting fibrous tissue. This did not take place at the time and indeed the passage was so narrow as to cause some disappointment. A little discharge also persisted from the deeper parts. During the next two months the discharge was frequently sucked out by means of Siegel's speculum and spirit drops were inserted at intervals of one or two days. Since then the meatus gradually dilated, so that a sufficient opening is left, and it is believed that as this process of centrifugal contraction goes on it will be quite as wide as could be desired. At the present moment there is no discharge and the meatus is quite large.

This case illustrates very typically the form of lateral sinus thrombosis in which it is justifiable to omit the ligature of the jugular vein and to limit the radical intervention to the temporal bone and sinus. A number of such cases are quoted by Macewen in his work on the "Pyogenic Diseases of the Brain and Spinal Cord."

Cavendish-square, W.

THE TURK'S AND CAICOS ISLANDS AS A RESORT FOR CASES OF PULMONARY TUBERCULOSIS.

BY GEORGE S. S. HIRST, M.B., C.M. EDIN.

THE Turk's and Caicos Islands, though practically unknown to the majority of people, form a dependency of Jamaica and lie between 21° and 22° N. latitude and 71° and 72° 37' W. longitude. Geographically they belong to the Bahamas group of islands but since 1873 they have been constituted a dependency of Jamaica. Grand Turk, the capital of the dependency, is in direct communication with New York by the Clyde line of steamers, with Halifax by Messrs. Pickford and Black's boats, and with Bristol by the Elder-Dempster line.

Though thousands of people visit Jamaica from New York and Great Britain every year either in search of health or pleasure these islands have been entirely overlooked by the tourist and invalid. To the former they offer little or no attraction, but to the latter their claims are certainly worthy of consideration, for the climate is healthy and equable, the heat never being oppressive on account of the never-failing breeze day and night, and living is cheap.

The population of the islands is divided into white, coloured, and black. There are about 500 whites, of whom the majority have been born in the dependency and who consequently look upon the islands as their home. Of the remainder, some have come to the dependency suffering from pulmonary tuberculosis in the hopes of prolonging their lives and have lived 30 or 40 years in apparent good health.

The climate of the islands will be best judged from the following meteorological table:—

Meteorological Observations at the Settlement of Salt Cay of the Turk's Islands Group for 1905.

Month	Prevailing wind.	Inches of rainfall.	Temperature at mid-day.		Barometric pressure at mid-day.	
			Highest.	Lowest.	Highest.	Lowest.
January	N.E.	2·01	82° F.	77° F.	32·80	30·50
February	E. by S.	3·06	81° F.	76° F.	32·60	30·40
March	Variable.	1·34	81° F.	76° F.	30·28	29·95
April	N.E.	1·57	83° F.	78° F.	30 18	29·95
May	First half E. Second half variable.	0·68	84° F.	81° F.	30·32	30·50
June	E. by S.	3·96	85° F.	81° F.	30·28	29·95
July	First half E. by S. Second half E. by N.	0·5	86° F.	84° F.	30·28	30·14
August	E. by S.	0·98	86° F.	83° F.	30·25	30·11
September	Variable.	0 97	86° F.	82° F.	30·20	29·99
October	,,	5·41	86° F.	83° F.	30·98	29·90
November	W. by S.	4·38	85° F.	76·50° F.	30·14	29·92
December	E. by S.	0·42	83° F.	79° F.	30 50	30·25

The above table applies only to the island of Salt Cay, but it would apply with slight variations to the other islands forming the group, except as regards the rainfall, and this differs within large limits, on some of the islands the rainfall recorded being double that at Salt Cay. Again, the rainfall differs on each island from year to year within quite large limits. The hours of sunshine have not been recorded because during the day the sun is practically always shining. A whole dull day occurs but rarely. In the months of August and September, known as the "hurricane months," the wind blows with greater force than at any other period of the year. Twice in the last century during the month of August—viz., in 1866 and 1887—a hurricane visited the islands, causing considerable damage to property. The 1899 hurricane, which did such damage in Jamaica, missed these islands.

The disease which prevails most among both white and black people is rheumatism. I am unable to offer any explanation why rheumatism should be so prevalent, as none of the conditions are present which favour this complaint. The disease attacks most frequently elderly people but subsides rapidly under a treatment of salicylate of sodium, in fact, so efficacious is this drug that it is looked upon as a specific, most of the rheumatic subjects keeping a supply in their houses. I have seen no rheumatic deformities either among the whites or blacks. Among black rheumatic subjects I have noticed a number of cases of neuritis of the lower extremities, but I have not observed any such cases among the white or coloured people.

Among the blacks there are many cases of pulmonary tuberculosis. This is probably due to the fact that the blacks sleep in small overcrowded rooms upon which they expend much time and labour in excluding any trace of fresh air, and not appreciating the methods of dissemination of the disease one infected person in such an atmosphere rapidly infects the rest. The disease, however, has a tendency to recovery and in fact the majority of cases when placed under more sanitary conditions do recover, often without any specific treatment. I have heard of no cases of pulmonary tuberculosis among the white or coloured people except those cases which have been imported and which have recovered.

Senile cataract is common among the elderly black and coloured people but does not appear to be any more prevalent among the whites than elsewhere.

Of tropical diseases there are none, except in a small area in the Caicos group where malarial fever occurs, but malaria is unknown in any other part of the dependency. In 1853 cholera was imported but it was quickly stamped out. Four cases of yellow fever were landed from a ship ten years ago but the disease never spread. A case of small-pox was imported about 25 years ago but the disease was readily stamped out. There are no zymotic diseases.

The rain-water is collected in tanks, the majority of these being owned by private individuals and the remainder being Government property. There are now sufficient of these tanks to prevent any shortage of water during a drought. In addition there are a number of springs, but after a drought the water becomes brackish and unfit for human consumption, though cattle drink it readily. It is also in some cases used for washing purposes.

The soil is sand with a substratum of rock. Though the original settlers and their descendants for a few generations cultivated the land and apparently raised large crops of cereals, the present inhabitants (I speak only of the working classes) are an idle and thriftless lot and have allowed bush and "prickly pear" to take possession of the greater part of the land. The labourer works only during that part of the year when the salt is being raked and when vessels call at the various ports for cargoes of salt; the rest of the year he spends in repose, living on what he can borrow or get advanced from the salt merchants. He raises a few sweet potatoes, melons, and pumpkins in a small corner of his garden, but he relies chiefly upon the exertions of Providence to look after his crops.

As regards food, there is an abundant supply of fish, many edible varieties being found around the islands. Poultry, though small, is plentiful and cheap. The poultry might easily be improved in size and quality by the introduction of a few Buff Orpington cocks. Eggs, too, are plentiful and cheap. Beef and mutton can nearly always be had, but the cattle and sheep are not fed with the object of producing meat, consequently it cannot always be relied upon. Fruit of nearly every tropical variety is grown to a great extent in the Caicos Islands and the neighbouring republics of Hayti and San Domingo, the supply being abundant and the price reasonable. Vegetables are scarce, but with some encouragement I think that the native could be induced to cultivate the land more and produce with comparative ease such vegetables as peas, beans, marrows, cucumbers, and a few root crops. At present vegetables are imported from other parts and are consequently dear.

Boating can be indulged in to any extent. The sea between the islands is rarely rough and there is always sufficient breeze for a sail. The natives, both black and white, are expert sailors, and it is the rarest thing in the world to hear of a sailing accident. Sea-bathing, too, is a pleasant form of amusement. The water is of a beautiful deep blue colour and so clear that one can see the bottom of the sea at a depth of 40 feet. Of fishing there is abundance.

On most of the islands there is a cricket club and on a few there are tennis courts. Golf, I believe, is also played at Grand Turk, but it would be an easy matter to lay out a golf course on any of the islands.

As a resort for persons suffering from pulmonary tuberculosis I confidently recommend these islands to the consideration of medical men having patients able to afford a short sea voyage and a residence in the tropics but unable to take advantage of the more fashionable and expensive resorts for invalids. As the inhabitants say, living on any of these islands is like living on the deck of a ship—there is a constant sea breeze and the heat is never oppressive.

Salt Cay, Turk's Island, West Indies.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

CENTRAL LONDON THROAT AND EAR HOSPITAL.

A CASE OF RETRO-PHARYNGEAL ABSCESS IN A FEMALE, AGED 21 YEARS; EVACUATION OF PUS FOR DYSPNŒA; DEATH FROM SLOUGHING OF THE INTERNAL CAROTID.

(Under the care of Dr. ANDREW WYLIE and Dr. V. H. WYATT WINGRAVE, pathologist.)

A FEMALE, aged 21 years, was admitted into the Central London Throat and Ear Hospital on Feb. 28th suffering from dyspnœa of two months' duration. On inspection a soft fluctuating swelling was found on the right side of the pharynx; further, a soft boggy swelling presented externally behind the right sterno-mastoid muscle, together with a large red and fluctuating swelling at the anterior border of the left sterno-mastoid. The patient had had a severe attack of pleurisy with effusion 12 months previously and since then was losing weight. She was troubled with night sweats. She had a hard dry cough but there was no expectoration. Two months previously a swelling appeared on each side of the neck with considerable difficulty in breathing, especially when lying down. These symptoms gradually became worse and on admission the dyspnœa was very severe. There was no pain on pressing the head but slight pain on active rotation. On examination of the chest there was marked dulness at both apices with crepitant râles. Her father, mother, and one sister died from pulmonary tuberculosis.

On March 1st an incision was made over the boggy mass behind the right sterno-mastoid muscle and a considerable quantity of pus was evacuated. A deeper collection of pus was reached by separating the deep fascias and free drainage was insured by a counter opening made in the lateral pharyngeal wall from the inside. The dyspnœa was at once relieved. The temperature remained normal and the condition of the patient improved. The abscess cavity on the left side was also opened but it appeared to have no deep connexions. On the ninth day after operation, during an attack of coughing, arterial blood suddenly poured from the mouth and the patient died in a few minutes.

Necropsy.—On examining the interior of the pharynx a small vertical slit with rough edges was seen behind the right posterior faucial pillar about ten millimetres in length. It led into a cavity about five by three centimetres outside the aponeurosis which contained red blood clot and a small slough. This cavity, which was irregular in shape and rough, had opening into it several pockets, one extending upwards and backwards towards the operation wound, and another towards the vertebral column ending in broken-down glands lying upon the third and fourth centra. It also reached a small group of the deep jugular glands similarly affected. The common carotid artery was then slit up from below. At a point about two centimetres above the bifurcation of this vessel a small reddish-grey slough was seen on the inner and posterior wall

of the internal carotid, which involved all its coats. Through a small perforation a probe passed directly into the large cavity. A small pale swelling just over the upper thyroid cornu was opened, setting free some semi-solid pus. The bodies of all the cervical vertebræ were free from disease and there was no pus in the cellular tissue behind the pharynx or in the posterior mediastinum. No foreign substance could be found.

Microscopically the pus consisted almost entirely of granular amorphous débris with a few multinucleated leucocytes and old faintly staining tubercle bacilli. The pus evacuated at the operation showed the same characters as that which was taken at the necropsy, proving that the disease was tuberculous and of long standing.

Remarks by Dr. WYLIE and Dr. WYATT WINGRAVE.—The condition points to an old tuberculosis of the retro-pharyngeal and deep jugular glands followed by breaking down, burrowing of the pus, sloughing and perforation of the internal carotid artery. We report the case for its exceptional clinical features as illustrating an unrecorded complication occurring in connexion with abscess in this situation. The disease had evidently involved the sheath and coats of the vessel causing a distinct weakening at one spot which gave way when its support was withdrawn and it was exposed to the violent strain of coughing.

BLANDFORD COTTAGE HOSPITAL.

A CASE OF TYPHOID FEVER; PERFORATION; OPERATION; RECOVERY.

(Under the care of Dr. G. H. S. DANIELL.)

A FEMALE patient, aged five years, was admitted to the hospital on May 13th, 1905, the tenth day of the disease. The fever followed an ordinary course, there being moderate diarrhœa and abundant spots. The temperature reached normal night and morning on June 7th and it again began to rise on the 24th, that date marking the beginning of the relapse. On July 4th the child suddenly developed abdominal symptoms. There was incessant sickness, with much pain and tenderness over the cæcal region. The pulse was 140. Dr. Daniell saw her late on that evening and as there was no distension he decided to wait until the next morning and then to determine the treatment. On the 5th he found distension existing with disappearance of the liver dulness. The legs were drawn up towards the abdomen, the pulse was running, and there was great restlessness. On opening the abdominal cavity abundant clear fluid ran out and Dr. Daniell readily found a small opening in the midst of an inflamed Peyer's patch and apparently near the ileo-cæcal valve. Undue manipulation was avoided but nevertheless semi-digested milk escaped and was swabbed up. Another inflamed area was seen and looked as if it might easily perforate. The opening was closed with a double row of sutures, leaving in the track a large gauze drain. The abdominal cavity was not flushed out. Some trouble was experienced in the after-treatment and it was some months before healing was completed. The sutures uniting the abdominal parietes all failed owing to the incessant crying of the child and a weak scar resulted. There was no diarrhœa in the relapse.

LONGEVITY.—The *Yorkshire Post* of April 3rd contained an article based on an interview with Mr. Henry Wright of Halifax who completed his hundredth year on April 5th. He still possesses a full, firm voice, decided mental alertness, and a memory that can recall events which occurred about the time of the battle of Waterloo. His sight and his hearing are not so good as they were a year or two ago but with glasses he can read a newspaper and write letters. He recorded his vote at the recent parliamentary election and attended divine service at a chapel on April 1st. Mr. Wright went to Halifax in the year 1822, when he was 16 years of age, and has lived there ever since with the exception of a short interval spent in London and the Isle of Wight. One of his two sons was the late Dr. Hodgson Wright of Halifax, and Dr. J. Crossley Wright, also of Halifax, is his grandson. Mr. Wright never uses tobacco but he has been a hearty tea drinker all his life. His experience is not in agreement with the maxim of "early to bed and early to rise," &c., for he said to his visitor, "If you called at one o'clock any morning the chances are that you would find me still out of bed."

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Exhibition of Cases.

A MEETING of this society was held on April 9th, Sir LAUDER BRUNTON, the President, being in the chair.

Dr. F. PARKES WEBER exhibited a case of Congenital Paroxysmal Cyanosis with Polycythæmia in a girl, aged 16 years, who was well grown, though backward in her education. Her colour varied greatly from time to time. Sometimes it was almost natural but on any physical exertion or mental effort or excitement her lips, nose, and fingers might become bluish-black and the cyanosis could likewise be observed in her eyelids and cheeks but was less obvious in her ears and toes. There was scarcely any "clubbing" of the fingers and none of the toes. Examination of the heart revealed a rough systolic murmur all over the cardiac area but there were no evidences of any marked hypertrophy. The urine showed nothing abnormal; it was of rather low specific gravity and certainly did not suggest any passive congestion of the kidneys. Neither was there any œdema or distension of the superficial veins of the extremities to suggest failure in the circulation. The pulse varied considerably in frequency (from 84 to 120) and was of rather low pressure (brachial blood pressure about 108 millimetres of mercury as estimated by the Riva-Rocci apparatus with the broad band). Examination of the blood showed that the red corpuscles were greatly increased in number as they often were in cases of cyanosis from congenital heart disease. In Dr. Weber's opinion the only way to account for the symptoms was to suppose that there was an abnormal aperture in the inter-ventricular septum with fairly equal development of the muscular walls of the two ventricles. Some form of pulmonary stenosis was probably also present. A defect in the inter-auricular septum (whether in the position of the foramen ovale or in an independent position) did not by itself give rise to similar symptoms nor did patency of the ductus arteriosus (Botalli). The variations in the degree of cyanosis might be accounted for by occasional difficulty in the pulmonary circulation. The attacks, or rather exacerbations, of cyanosis in the present case were not as striking as they were in M. G. Variot's and other cases which were collected by J. Sebilleau.[1] In one of Variot's patients the well-known physiologist, Professor E. J. Marey, after he had had the opportunity of examining the heart removed at the necropsy, suggested that spasm of a muscular infundibulum of the pulmonary artery was a possible cause of the paroxysms of cyanosis which had been observed during life.—Dr. ERNEST KINGSCOTE referred to two cases of paroxysmal cyanosis, in one of which a mitral regurgitant murmur was observed but in the other no cardiac defect could be detected. One of these cases had been diagnosed as Raynaud's disease. However, both of these patients were found to have been the victims of the phenacetin habit and when this drug was stopped the attacks of cyanosis ceased and the patients had since been in fairly good health.—The PRESIDENT also referred to a patient whom he had seen in consultation for paroxysmal cyanosis which eventually proved to be dependent upon large doses of phenacetin, by which means the attacks of cyanosis and hæmoglobinuria could be produced at will by the patient. When prevented from taking this drug the patient completely recovered and had remained well during the past 12 years.

Dr. WEBER also exhibited a case of Aortic Aneurysm (?) in a woman aged 35 years.

Dr. F. J. POYNTON exhibited four cases illustrating imperfect development in children. 1. A case of Cretinism in a girl, aged three and a half years, who had improved under the thyroid treatment. 2. A case of Mongolian Imbecility in a child, about six years old, showing the characteristic physical and mental peculiarities of this retarded development. 3. A case of Achondroplasia in a male child, aged eight years, who was only 31 inches high and presented the fusiform condition and "ray-like" disposition of the fingers, shortening of the long bones, and thickening of the epiphyses, combined with the normal intelligence, of this affection. The chief pathological changes in this disease,

[1] Thesis on Congenital Paroxysmal Cyanosis. Paris: Vigot Frères, 1904.

Dr. Poynton remarked, affected the bones which developed in cartilage between the third and sixth months; between the epiphyses and diaphyses of these bones an ingrowth of connective tissue took place which prevented development. Bones which developed in membrane were not affected. The thickening around the joints was due to periosteal growth. 4. A case of Osteogenesis Imperfecta in a child, aged four years, the youngest of three children, the other two being healthy. The family had lived in a damp, underground kitchen for the past year, but the condition was evidently congenital. All four limbs were greatly distorted and the shafts of the tibiæ were so soft that they could be bent by only a moderate force.—Dr. J. PORTER PARKINSON, commenting on this case, asked how such cases differed from rickets, which was also an imperfect bone formation, an "osteogenesis imperfecta," and therefore in any case that name was unsuitable.—Dr. POYNTON, in reply, said that the case was differentiated from ordinary rickets by the congenital appearance of the bony defects, the tendency to fractures, the extreme deformity, the affection of the shafts (not the epiphyses) of the long bones and their softness, the absence of marked constitutional signs such as occurred in rickets, and the failure of antirachitic treatment. He referred to another case under his care and said that the condition more nearly resembled fragilitas ossium occurring in infancy.

Mr. H. E. CORBIN exhibited a case of Mongolian Idiocy which was under the care of Dr. Sydney P. Phillips at the London Fever Hospital, in a female child, aged five years.—Dr. G. E. SHUTTLEWORTH drew attention to the absence or diminution of the thyroid gland in this case as revealed at the operation of tracheotomy, which was a diagnostic feature of cretinism as distinguishing it from Mongolian idiocy.

Dr. O. K. WILLIAMSON showed a case of Morbus Cordis (probably congenital) in a man, aged 65 years. There was a history of dyspnœa for the last six years. Examination showed no marked enlargement of the heart but a well-marked systolic thrill in the third left space, also a very loud harsh systolic murmur having its maximum intensity in the same area but also audible at the apex and over the aortic area.—Dr. WILLIAMSON also exhibited a case of Pulmonary Regurgitation and Mitral Stenosis in a woman, aged 37 years.

Mr. JAMES BERRY exhibited a case of Thyroid Tumour for diagnosis. The patient was a woman, aged 52 years. Four and a half years ago she had first noticed the swelling in the right lobe of the thyroid gland. This had gradually increased in size and in the last year had also involved the left side. At times the patient had had a good deal of pain and during the last ten months there had been some dyspnœa on exertion. There had been little or no dysphagia. The general appearance, waxy complexion, slow speech, and the moles on the face suggested thyroid insufficiency. The thyroid gland was considerably and nearly uniformly enlarged; it was of dense, almost stony, hardness, and was firmly fixed to the larynx and trachea. The left carotid artery was displaced outwards and backwards; the right could scarcely be felt and was apparently involved in the tumour. The vocal cords were not paralysed. The patient had been under observation for six months and had been taking thyroid gland tabloids. During this time the tumour had increased very little, if at all, in size. The diagnosis seemed to lie between primary chronic (so-called canceriform) inflammation and true malignant disease.—Mr. F. C. WALLIS commented on the rarity of such cases. The only case which he had seen resembling this one had turned out to be osteo-sarcoma.—In reply to the PRESIDENT, Mr. BERRY said that he had tried the use of red iodide of mercury without success. This was the fourth case of the kind that he had seen and histologically the structure had simply revealed pure fibrous tissue.

Mr. C. R. B. KEETLEY exhibited a case of Congenital Varus in both Hands in an infant, aged three months. The defect was a congenital defect in the hands resembling club foot in the feet. Both elbows were stiff and this condition had probably prevented the proper development of the hands in utero.

Mr. S. MAYNARD SMITH showed the photograph, specimen, and microscopic sections of a case of Suppuration in the Thyroid Gland in a woman which had been exhibited before the society on Feb. 12th last.[1] Various opinions were then expressed as to the nature of the lesion. A month later the patient was seized with acute abdominal symptoms due to perforation of a jejunal ulcer and she died a few hours after operation. Microscopic examination of the thyroid tumour showed the mass to be a round-celled sarcoma with large areas of degeneration and suppuration. There were no secondary deposits in the enlarged glands.

Mr. J. LYNN THOMAS (Cardiff) gave a description of, and exhibited, a portable operating table facilitating the Trendelenburg and lithotomy positions and dorsal flexion of the loins. The mechanism was so arranged that the operator could dispense with the necessity of an assistant.

[1] THE LANCET, Feb. 17th, 1905, p. 447.

OBSTETRICAL SOCIETY OF LONDON.

Chronic Infective Metritis.—Abdominal Pregnancy in which the Fœtus was removed Six Months after Spurious Labour at Term.—Exhibition of Specimens.

A MEETING of this society was held on April 4th, Dr. W. R. DAKIN, the President, being in the chair.

A paper was read by Dr. A. W. ADDINSELL on Chronic Infective Metritis, followed by a lantern demonstration. He said that the condition was due to infective inflammation originating in the endometrium and extending into the muscle wall of the uterus. In the cases referred to there was a history of infection following childbirth, miscarriage, gonorrhœa, or local interference. In none of the cases was there any gross lesion, such as the presence of fibromyomata or malignant disease, found before or after removal by operation. In all the predominant feature which determined hysterectomy being performed was persistent, excessive, and uncontrollable hæmorrhage. Three stages were described: The first, or early stage, in which the chief characters were perivascular inflammation, small round-cell proliferation round the vessels; a gradual encroachment of round cells along the line of vessels and invading the inter-muscular connective tissue; round-cell proliferation surrounding those mucous glands which lie deepest in the muscle wall. The second stage was marked by considerable increase of fibrous tissue. The inter-muscular connective tissue was converted into fibrous tissue; bundles of muscle fibres were seen in isolated groups, strands of fibrous tissue running in all directions. The arteries were thickened, chiefly in the middle coat but also in the outer coat. There was increased vascularity. Some of the arteries were almost obliterated. Many were distorted in shape. This was the condition described by Mr. J. Bland-Sutton as "fibrosis" and by Dr. Palmer Findley as "arterio-sclerosis." In the third stage there was a still greater increase in vascularity. The fibrous tissue had undergone degeneration. There was marked dilatation of capillaries. The muscle-nuclei took the stain badly. The whole microscopical field looked like an opaque homogeneous mass perforated with innumerable vessels. It was difficult to make out any muscle tissue. The clinical history of these cases was described and the treatment was discussed, the conclusion being arrived at that after all the usual remedies had been tried hysterectomy had eventually to be performed.—Dr. G. F. BLACKER pointed out that there were several different conditions all associated with the one symptom of intractable hæmorrhage from the uterus. He wished to know if Dr. Addinsell had taken the precaution to exclude the possible effects of presenility and child-bearing in his cases as etiological factors. He thought that further evidence would be required before they could accept as proved the view that these cases were due to infection. With regard to treatment, steaming the uterus was of the greatest possible value and should always be resorted to before hysterectomy was carried out.—Dr. GRIFFITH said that he was not in favour of steaming the uterus in cases of this kind, and that he considered cases of hæmorrhage so intractable as to justify hysterectomy—excluding cases of cancer and fibroids—were exceedingly rare.—Dr. T. W. EDEN said that he could not accept the view that the changes in the uterine musculature shown by Dr. Addinsell were inflammatory in their nature. The real difficulty in interpreting histological detail in the uterine wall was due to the fact that no precise study had ever been made of the uterine tissues at different stages of the fertile period of life.—Dr. ADDINSELL replied.

A short communication was read by Dr. E J. MACLEAN on a case of Abdominal Pregnancy in which the fœtus was

removed six months after spurious labour at term. The patient was a married woman, aged 34 years, who had not been previously pregnant. She was admitted into the Cardiff Infirmary on Feb. 17th, 1906. The last menstrual period had occurred in November, 1904. Two months later some indefinite discomfort was experienced in the lower abdomen and a brown vaginal discharge appeared. The patient apparently was then supposed to have been normally pregnant and the confinement had been expected about the last week in August, 1905. Spurious labour occurred towards the end of August but the pains passed off, the breasts became smaller, and the abdominal swelling also diminished in size. The patient continued in good health until a week before her admission to the infirmary, when severe pain in the abdomen and back set in, with fever and vomiting. Abdominal pregnancy with recent infection of the sac was diagnosed and on the next day the patient was operated on. A full-term fœtus was removed, showing evidence of putrefactive change. The peritoneal cavity was completely shut off from the sac containing the fœtus and was not opened at any time during the operation. There was a pinhole communication between the bowel and the sac. A gauze drain was inserted at the time and subsequently further drainage was provided by incision into the posterior fornix per vaginam. The patient's general condition had much improved since the operation. The abdominal wound was closed.

Dr. AMAND J. M. ROUTH showed a specimen of Fibroma of the Ovary.

Dr. R. BOXALL read a note on the After-history of a case of Cystic Fibroid with Carcinoma of the Left Ovary and Right Fallopian Tube.

Dr. BLACKER exhibited a specimen of a Tubo-abdominal Gestation Sac with Fœtus.

Mr. J. BLAND-SUTTON showed a specimen of Cancer of the Body of the Uterus complicated with Fibroids.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on March 28th, Mr. W. A. U. Thomson, Vice-President, being in the chair.—Microscopical preparations were exhibited illustrating various Pathological States of the Blood. These were lent by Dr. G. Leslie Eastes.—Dr. A. R. G. Pocock of Beaconsfield read a paper entitled, "Notes on a Case of Pernicious Anæmia." The patient was a man, aged 30 years, who had led a rough life in Australia involving much exposure. He had had no acute illness since youth but he had several times suffered from anæmia and recovery had followed treatment by iron. In 1904 he sailed for England, enduring much privation on the voyage. Another attack of anæmia ensued and again he improved under iron. In February, 1905, he began to suffer from biliousness, vomiting, and at times diarrhœa. Twice blood was present in the vomit and frequently there was slight bleeding from the nose and from piles. He became incapable of the least exertion, suffered from dyspnœa, palpitation, &c., and when seen by Dr. Pocock on May 19th he had had severe vomiting and diarrhœa for three days, with bleeding from the stomach resulting in collapse. He was much emaciated. His pulse was soft and regular and 112 per minute. His urine was scanty and high coloured; it contained no albumin or sugar. There were a loud systolic murmur over the cardiac area and a bruit in the neck. The lungs and abdominal contents were apparently normal; the spleen could not be felt. The pupils were dilated and retinal hæmorrhages were present. The reflexes were normal. Examination of the blood showed a variation in the size and shape of the red cells (poikilocytosis). Normoblasts were also found. The leucocytes were normal. The patient was put upon arsenic and from May 19th to June 17th he became steadily worse. Nervous symptoms became prominent and twitchings and cramps came on; there were also severe headache, irritability and restlessness, and delusions at night. There was frequent cough at times causing vomiting. The spleen could now be easily felt. The patient's bowels were confined, his temperature varied from 100° to 102° F., and his pulse became smaller, more rapid, and intermitting. There was a tendency to syncopal attacks, especially at night. The emaciation became more pronounced and his colour became more lemon-tinted. Œdema appeared about the ankles. On June 17th the red cells were 580,000 per cubic millimetre, the hæmoglobin was from 20 to 25 per cent., and the colour index was 1·8. Marked poikilocytosis was present as also were nucleated red cells. The patient was now taking 18 minims of liquor arsenicalis a day and his symptoms were becoming worse. There was hæmorrhage from all the mucous membranes. The urine, which was scanty and high coloured, deposited a thick cloud of albumin. On June 19th calomel was given every three hours in doses of one-tenth of a grain and with a good result. On the same day arsenic was tried in smaller doses and on the 21st an improvement in the condition was noted. The arsenic was then increased gradually till three minims every four hours were reached, the calomel being continued every four hours. On July 7th an examination of the blood showed 2,900,000 red cells per cubic millimetre; hæmoglobin, 52 per cent.; and the colour index, 0·89. Nucleated red cells were absent but poikilocytosis was still present. From this date he remained in good health for some time, the blood being apparently normal on Dec. 1st. He, however, subsequently relapsed and died in the hands of "Christian Scientists" in London in February, 1906. Dr. Pocock made a post-mortem examination; the most noteworthy feature that was found was a marked fatty degeneration of the heart to which death was presumably owing. The extreme emaciation observed in this case was a very unusual condition. The patient did best on a proteid diet, albumin water being of great service. Peptonised milk, raw meat juice, and plasmon were also helpful. Farinaceous foods were not successful. Adrenalin was ineffectual in checking the hæmorrhages from the nose and the gums.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—A clinical meeting of this society was held on April 6th, the President, Mr. L. A. Bidwell, being in the chair.—The following cases were shown: Mr. J. Howell Evans: Two cases of Congenital Pigmented Wart (Acanthoma); remarks on these cases were illustrated by a series of lantern slides.—Dr. E. Arthur Saunders (for Dr. Seymour Taylor): Two cases of Tabes Dorsalis in women.—Dr. Phineas Abraham: (1) A case of Dermatitis Exfoliativa which commenced as an eruption indistinguishable from Pityriasis Rubra Pilaris; (2) an Infant the subject of several Cornua Cutanea; and (3) a case showing an unusual form of Impetigo Contagiosa which had sometimes been designated impetigo annulata.—Dr. Saunders showed (1) a case of Sclerodermia involving a Localised Area on the Back which had followed, and appeared to be the result of, an injury; (2) a case of Syphilis in a Man with great Enlargement of the Skull and also of the liver; and (3) a Child, aged 13 years, with a Greatly Enlarged Head and Spleen, the result of hereditary syphilis.—Mr. Donald J. Armour exhibited a woman from whom he had removed a Large Polycystic Kidney 16 months before. The specimen was shown at the time. The patient was in perfect health. He also showed a patient from whom he had excised both Temporo-maxillary Joints for Bony Ankylosis some months previously with a very satisfactory result.—Dr. Leonard C. T. Dobson showed a case of Epithelioma of the Auricle.—Mr. E. Percy Paton showed a case of well-marked Molluscum Fibrosum.—Mr. Aslett Baldwin showed a case of Hereditary Ataxia with marked Deformity of Both Feet.—Mr. Bidwell showed a case of Rodent Ulcer in which the ulcer had developed in the situation of an old syphilide.—There was a large attendance of members of the society and an interesting and instructive discussion followed the exhibition of the cases.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 6th, Mr. Edward Ward being in the chair.—Mr. H. Collinson read notes of a case of Thrombosis of the Superior Mesenteric Artery, with some remarks on the pathological and clinical aspects of the condition.—Dr. E. F. Trevelyan read a paper on the Laryngeal Complications of Phthisis. He first emphasised the importance of the routine inspection of the larynx in every case of pulmonary tuberculosis. Among his 100 cases of laryngeal complications the various stages and phases were represented, including perichondritis, cord fixation and paralysis, and stenosis. Infiltration was by far the most common lesion present. In single instances he had seen tuberculous laryngitis progress through the catarrhal stage to the stage of infiltration and even ulceration. Tuberculous laryngitis might supervene under the best hygienic conditions and in spite of all precautions. It was usually an event in pulmonary tuberculosis of the gravest import. Dr. Trevelyan had seen three cases of interarytenoid infiltration, two in early and one in advanced pulmonary tuberculosis, in which healing might be said to have taken place. In one of the early cases pieces of apparently necrosed cartilage were spat up. Local treatment (lactic

acid) was alone had recourse to in the other early case. In a hopeful case absolute rest of the voice (adopted in the above-mentioned early case without local treatment) was of paramount importance. Judicious local treatment in selected cases, including curetting, was undoubtedly beneficial, but it was best carried out in institutions for pulmonary tuberculosis, including sanatoriums, and not in the out-patient room. Dr. Trevelyan thought that intact infiltrations were best left alone. In one case in which tracheotomy became necessary 40 months ago, both pulmonary and laryngeal lesions appeared now to be in a state of arrest. Thyrotomy and laryngectomy could not be recommended. In a case of laryngectomy quite successful from the operative standpoint, he had seen a *fondroyant* and fatal extension of the pulmonary disease. Palliative treatment was often most important, including amputation of a diseased epiglottis in distressing dysphagia.—The following cases and specimens were shown: Dr. E. O. Croft: Carcinoma of the Fallopian Tube.—Mr. R. Lawford Knaggs: Myeloid Tumour arising in association with a tumour of the head of the fibula in a case of multiple exostoses.—Mr. W. Thompson and Dr. W. H. Maxwell Telling: A specimen of Mesenteric Venous Thrombosis after Ovariotomy.—Dr. Telling: A case of Probable Adenoma Sebaceum of the Nose.—Dr. O. C. Gruner: A series of slides illustrating the Microscopic Structure of Suprarenal Adenoma.—Dr. Trevelyan: A case of Pneumothorax with few symptoms and marked signs; also a case of Epilepsy in close association with lead poisoning.—Cases and specimens were also shown by Mr. A. L. Whitehead, Mr. Ward, Mr. H. Littlewood, and Mr. J. J. Pickles.

HUNTERIAN SOCIETY.—A pathological meeting of this society was held on March 28th, Dr. F. J. Smith, the President, being in the chair.—The President showed a Large Melanotic Growth of the Liver from a woman, aged 35 years, one of whose eyes had been removed at the Royal London Ophthalmic Hospital, Moorfields, a few months before her death.—Dr. H. Russell Andrews showed: 1. Four specimens of Complete Abortion, in the earliest of which the ovum was not more than ten days old. They showed the different stages in the development of the decidua capsularis. 2. An Ovarian Teratoma removed from a child, aged 12 years, containing fat, hair, skin, cartilage, glandular tissue resembling that of large intestine, &c.—Dr. J. P. Zum Busch showed: 1. A Melanotic Sarcoma of the Rectum removed from a woman, aged 32 years, who was quite well two years after the operation. Microscopically it was seen to be alveolar in structure, the septa containing much pigment. 2. A Rudimentary Uterine Horn and Fallopian Tube filled with Blood removed from a woman who complained of constant pain after her first confinement.—Dr. R. Fortescue Fox showed a specimen of "Thumb-base Arthritis" from a patient, aged 80 years. He considered that the condition was due to the action of trauma on senile tissues.

ROYAL ACADEMY OF MEDICINE IN IRELAND: SECTION OF SURGERY.—A meeting of this section was held on March 23rd, Sir Arthur Chance, the President, being in the chair.—Mr. Edward H. Taylor read a paper on the Treatment of Acute Peritonitis. He discountenanced the administration of morphine before a diagnosis had been made owing to the way in which it masked symptoms. In connexion with the operation itself he strongly advocated general anæsthesia but recommended that it should not be unduly pressed. Local anæsthesia might suffice if it were desired merely to evacuate an encapsuled collection of pus or to establish a fæcal fistula. In conclusion he reviewed the subject of peritoneal drainage—namely, the best means for insuring it and the difficulties which had to be encountered. He regarded drainage of the general peritoneal cavity as practically impossible owing to the rapidity with which drains of all kinds were encapsuled. When acute peritonitis had reached an advanced stage, the abdomen being greatly distended, the extremities cold and livid, the heart's action weak, and the pulse very frequent and feeble, it was doubtful if operative measures could hold out much hope.—The President said that he considered the administration of morphine in cases of peritonitis to be, as a rule, unwise; it might, however, be useful before operation. Flushing of the peritoneum tended to revive the patient and to stimulate the peristaltic action of the intestine. He was inclined to sanction operative measures even in desperate cases, as they alone appeared to offer any prospect of recovery. He related the clinical history of a patient under his own care in whom recovery followed operation, although everything pointed at first to a speedily fatal issue.—Mr. R. Charles B. Maunsell said that in his opinion the giving of morphine before operation was harmful as it tended to cause flatulent distension of the intestines. His own practice was to mop out and to dry the peritoneum with gauze and to drain in cases of diffuse (not generalised) peritonitis. He did not employ flushing under such conditions. He described the method which he usually carried out when flushing was indicated. Two openings were necessary, one above and the other below the umbilicus in the hypogastrium.—Mr. H. B. Goulding said that he was not strongly opposed to the use of morphine for it was of enormous value in relieving pain. He was in favour of flushing as a means of cleansing the peritoneum.—Mr. Maunsell read a paper on Volvulus of the Cæcum treated by Reduction and Appendicostomy. The appendix was used as a means of fixation and drainage. He advocated closure of the appendicostomy opening by excision or invagination of the mucous lining, leaving the muscular portion of the stump to cicatrise.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on March 30th, Dr. O. C. Penrhys Evans, the President, being in the chair.—Mr. J. L. Stretton showed a man whose Tibia he had wired after removing an inch from the upper fragment to get the bones into apposition. He also showed a Large Fibroid of the Uterus weighing 11 pounds and a Large Parovarian Cyst weighing, with contents, 13 pounds; also two Polypi of the Uterus and two Small Exostoses removed from the cuneiform bone of a man.—Dr. T. Wilson-Smith read notes of a case of Leucocythæmia in an infant 15 months old.—Mr. J. Brocket read a paper on Three Functional Neuroses and an interesting discussion followed in which most of the members took part.—The Secretary, Dr. B. Addenbrooke, announced that as a result of the circular which he had issued the two missing books from the society's library had been returned.—Mr. W. H. Moore raised the question of juvenile Oddfellows, paying as they did the sum of 2*s.* per annum for medical benefits, and it was eventually resolved that the secretary should write to the British Medical Association to ascertain if any steps were to be taken by that body in the matter.

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on April 4th, at which a paper was read on the Present Treatment of Syphilis, by Lieutenant-Colonel E. Butt, R.A.M.C., of Dublin. After a historical survey of the incidence of syphilis in the British army in recent years, an account was given concerning the past eight years' employment of the method of continuous treatment by intramuscular injections of mercury. The technique of the method was described in detail and the lecturer claimed for it uniform success.—In the discussion which followed Dr. S. Buckley, Sir W. J. Sinclair, Dr. Cox, Dr. A. Emrys-Jones, Dr. H. A. G. Brooke, Dr. S. Moritz, Mr. W. Coates, Dr. G. H. Lancashire, and others took part. The general opinion of those who had employed the method was expressed, that while it undoubtedly had its special indications it was at the present time unsuitable for routine treatment in civil practice.

Reviews and Notices of Books.

Nodal Fever (Febris Nodosa). By ALFRED AUSTIN LENDON, M.D. Lond., Lecturer on Obstetrics and Clinical Lecturer on Diseases of Children, University of Adelaide; Visiting Medical Officer, Adelaide Children's Hospital. London: Baillière, Tindall, and Cox. 1905. Pp. 90. Price 5*s.*

IN this small volume Dr. London sets forth some well-founded arguments that the condition usually known in this country as erythema nodosum is in reality an acute specific infectious fever and not merely an affection of the skin as has hitherto been usually taught. Dr. London expressed his views as long ago as 1890 but his ideas failed to commend themselves to those to whom they were addressed. He now submits his opinions to the criticism of a wider circle of readers.

In order to justify the title of "nodal fever" he proceeds

to show that "erythema nodosum" is preceded and attended by pyrexia and general signs of malaise; that its course is marked by a prodromal period, by a stage of eruption, and by a period of convalescence; and that it occurs under conditions which strongly suggest infection from one case to another. In support of these contentions he first details the particulars of numerous cases which have come under his own notice in order to illustrate the types of the disease which may be met with. These types appear to vary in every conceivable manner, for some cases seem to expend all their energy in the prodromal stage, others are distinguished by the severity of the eruption, others again by a tendency to relapse, whilst some seem to be much more severe in character than usual on account of the "pseudo-rheumatic complications" which accompany them. He next describes the phenomena which may present themselves in the various stages of the disease. He rightly lays stress on the prodromal period and makes some interesting observations thereon. Out of 44 cases which have been under his own care there was no mention in his notes of the prodromal symptoms in seven instances, but in the remaining 37 cases the prodromata were more or less well marked; indeed, in 15 instances they were sufficiently severe to require medical advice prior to the appearance of the rash. The duration of these symptoms varied within wide limits and their nature was similar to those generally met with in other diseases of an acute febrile character. There was only one, however, which Dr. Lendon considered to possess any pathognomonic value—namely, phlyctenulæ of the conjunctiva.

The eruptive stage is well described and the coloured plates give a good representation of the appearance of the skin during this period. Dr. Lendon maintains that the eruption of nodal fever is polymorphic; that characteristic nodes of erythema nodosum are very seldom absent; that the next most frequent and constant form of spot is the papule or tubercle and after these the large diffused blotch; and that the rarest form is probably that of the ring (erythema annulare, erythema circinatum). The chief feature of the "stage of convalescence" is stated to be the marked debility resulting from the illness which is sometimes out of proportion to the severity of the symptoms.

Dr. Lendon next proceeds to bring forward evidence in favour of the infectious nature of nodal fever and gives several instances in which he believes the disease was communicated directly from one person to another. It will therefore be seen that he has thoroughly convinced himself that erythema nodosum is an acute specific infectious fever and his arguments in favour of this view demand serious attention.

This little volume affords interesting reading and we can recommend a perusal of it to our readers.

Abdominal Operations. By B. G. A. MOYNIHAN, M.S. Lond., F.R.C.S. Eng. Fully illustrated. London and Philadelphia: W. B. Saunders and Co. 1905. Pp. 694. Price 28*s.* net.

Mr. Moynihan is a voluminous writer but the very high level attained by him in his writings more than justifies the large number of works for which he is responsible. The surgery of the abdomen is at the present time the most important of the whole body. Operations on the brain may exceed in danger those on the abdomen but the latter are much more frequently needed. The author has, we think, done wisely in limiting in a practical book the operations to those performed by himself, for the last few years have created an immense literature on abdominal surgery and a full, or even a condensed, account of all the operations practised would have overwhelmed the more important, and many of those which have been described are not often done. Mr. Moynihan has had a large experience in this department of surgery and therefore this account of his methods is especially valuable. In his description of intestinal anastomosis he has omitted deliberately all mention of mechanical aids, such as buttons and bobbins, because he considers that their time has gone by. Without agreeing absolutely with this opinion we may acknowledge that to those who have much practice in intestinal suture the need of mechanical assistance is very small. We have referred to this point first because the author has mentioned it in his preface and we think it may be taken as characteristic of the whole book. Methods which in Mr. Moynihan's opinion are obsolete are not included.

It would serve no useful purpose to follow the author through the whole of this large volume but in order to give the reader an idea of the arrangement of the work we will refer especially to one section. Chapter XXX is concerned with the removal of the appendix. It commences with a brief but valuable account of the position of the organ; then follows a description of the operation, the chief methods of incising the abdominal wall being given, and in this connexion we may mention that we are pleased to see that the author correctly gives to Mr. W. H. Battle the credit for his method. This portion of the chapter has 13 useful illustrations. To this succeeds a section on abscess in connexion with disease of the appendix and the best modes of drainage are described and illustrated, and last comes a brief mention of appendicostomy, the whole occupying some 20 pages. The most striking point in the book is its practical character. Very little space is devoted to theory and then chiefly in relation to some practical point. The printing and illustrations are excellent, though we wish that half-tone plates did not need so glazed a surface.

Evolution, the Master Key. By C. W. SALEEBY, M.D. London and New York: Harper and Brothers. 1906. Pp. 364.

As a disciple of Herbert Spencer Dr. Saleeby has laboured to reconcile in his work entitled "Evolution, the Master Key," the principles enunciated in the synthetic philosophy with recent and almost revolutionary discoveries in science. In his introductory chapter he reminds us that to one who declared that the synthetic philosophy would assuredly endure throughout all coming time the author administered the rebuke, "Shall my words be the only things in all the universe that do not evolve?" "Evolution, the Master Key," substantiates the justice of this rebuke. Spencer's work has already evolved. The discoveries of radium and radio-activity have revolutionised our conception of the nature of matter; indeed, for a moment they seemed almost to threaten the stronghold of evolution itself—namely, the law of the conservation of energy. In the light of these new discoveries our physicists and our chemists have been so busy in their workshops eliciting new truths from nature that scant time has been left for the synthetic philosopher to estimate the value of his previous speculations in the searching light of those newly established facts. Dr. Saleeby has submitted Spencer's work to the tests implied by this new knowledge and that work has emerged triumphant, although a few of the theoretical speculations which form a part of the synthetic philosophy have required emendations so that they may fit in with the new conceptions of the nature of matter. The discovery of radium has forced us to the conclusion—a conclusion which Spencer foreshadowed and for which to some extent he allowed in his writing—that as there is an evolution of society, of morals, of intellect, and of organic life, so is there an evolution of atoms. Professor J. J. Thomson of Cambridge has propounded a

theory of matter which explains the known electrical properties of the so-called elements, furnishes a rational explanation of the facts of chemical combination, and accords with the famous periodic law of Mendeleef. Based on this theory Dr. Saleeby hazards the hypothesis that matter is the expression of an electrical relationship, and argues on lines along which we need not follow him too closely, that mind and matter are correlative and complementary, in fact, "that mind and matter are the warp and woof of what the earth spirit in *Faust* calls the 'living garment of God.'" This is, indeed, Monism with a vengeance and a most significant repudiation of materialism.

The story of cosmic evolution is described by Dr. Saleeby with genuine eloquence, but the field of knowledge over which in his survey of the operations of evolution his criticism wanders is of such ambitious proportions that individual portions of the volume are necessarily of unequal merit. In the chapter which deals with the human will we feel unable to follow the view that the path of volition is identical with that of inhibition, or that when the brain-centre comes to command the spinal centre to act all that it really does is to refrain from its customary restraint. The championship of the cause of spontaneous generation must again bring the author into antagonism with many of those who would otherwise admit the general efficiency of his "Master Key," and we must range ourselves here in opposition. Again, we are inclined to think that in those sections which are devoted to the discussion of the transmission in descent of acquired characteristics Dr. Saleeby has missed certain opportunities for justifying in the light of recent discoveries one of Spencer's most cherished and best abused views. These are, however, minor points and we consider that by his medical knowledge, combined with no common power of exposition, Dr. Saleeby has been enabled to write a valuable book, a book that all philosophically inclined members of our profession may read with pleasure and, perhaps, with no small influence on their intellectual evolution.

LIBRARY TABLE.

L'Injection Trachéale Simplifiée (A Simple Method of Tracheal Injection). By Dr. HENRI MENDEL. Paris: F. R. de Rudeval. 1906. Pp. 77, with 22 illustrations. Price Fr. 1.50.—Dr. Mendel has already made known to the British medical profession his method of intra-tracheal injections by a lecture which he delivered in English on the subject at the Hôtel Dieu in May last year, during the visit of British surgeons and physicians to Paris and which was published in a subsequent issue of THE LANCET.[1] In the present little volume the author explains his method very clearly and shows that by using the syringe recommended by him and by directing the fluid towards the back or side of the pharynx medicaments can be made to pass into the respiratory tract without causing any inconvenience to the patient and without the use of laryngoscopic mirrors. Dr. Mendel recommends daily intra-tracheal injections in all chronic respiratory affections, especially those of a tuberculous nature. He shows by tracings that one important result of the treatment is a marked increase in the amplitude of the respiratory movements of the chest. As medicament he uses chiefly eucalyptol of from 5 to 20 per cent. strength in sterilised olive oil. Beginning with a weak solution the strength should be gradually increased. The syringe contains three cubic centimetres and as much as three times this amount may be injected at a sitting. Contra-indications are stenosis of the glottis, hæmoptysis, and excessive sensitiveness of the pharynx. The text is well illustrated by drawings which are of material assistance in following the author's explanations of his method of injection.

[1] THE LANCET, July 15th, 1905, p. 133.

En Guérit-on? (Can it be cured?). By Professor ALFRED FOURNIER, Membre de l'Académie de Médecine. Paris: Librairie Ch. Delagrave. 1906. Pp. 96. Price 1 franc.—The object of this small volume is to show to what extent a permanent recovery from syphilis may be looked for. It is written in a somewhat sensational manner and is intended chiefly for the lay reader. The idea of Professor Fournier in publishing such a book appears to be to remove the terrible fears with which many afflicted with the disease are haunted and tormented to the effect that they are irretrievably doomed to the ravages of the disease for the rest of their life, and at the same time to impress upon them the vital importance of thorough and continued mercurial treatment in order that they may escape from the severe penalties to which the disease renders them liable. We should have thought that the course of the disease is now so well known to the profession that such information might be confidently left to its members to communicate to their patients as occasion arises, and it may be questioned whether anyone unversed in medical technicalities is able to follow the author's arguments with intelligence or advantage to himself. Apart from these considerations and the sensational style of the writing, evidently not intended for the medical or scientific inquirer, the book expounds in a very clear manner the present position of our knowledge on the subject. According to the author's statistics not more than from 3 to 5 per cent. of all cases of syphilis which have been submitted to a thorough and prolonged course of mercurial treatment, by which the author means a course extending over a period of three years, are likely to develop any evidence of the disease either of a syphilitic or parasyphilitic nature. In answer to the question therefore, "Can it be cured?" he confidently affirms that except in a very small proportion of cases the disease can be so far eradicated that not only the individual can consider himself free from the disease but that he need have no fear of imparting any taint either to his wife or to his offspring. The different points under discussion are fully illustrated by many interesting cases.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India: Serum-Therapy of Plague in India. Reports by W. M. HAFFKINE, C.I.E., and various Officers of the Plague Research Laboratory, Bombay. Edited, with an Introduction, by Lieutenant-Colonel W. B. BANNERMAN, M.D., B.Sc. Edin., F.R.S. Edin., I.M.S., Director of the Plague Research Laboratory, Bombay. Calcutta: Office of the Superintendent of the Government Printing, India. Pp. 73.—The papers published in this number of the "Scientific Memoirs" relate to trials in the Bombay Municipal Plague Hospitals of the sera prepared according to the methods of Professor Lustig of Florence, of Professor Terni of Milan, of Dr. Brazil of San Paulo, Brazil, and of Dr. Roux of the Pasteur Institute of Paris. These papers are very thoroughly reviewed in an introduction by Lieutenant-Colonel Bannerman and we have accordingly presented to us a well-reasoned critique of the advantage or otherwise in administering anti-plague serum in the treatment of this disease. As regards Lustig's serum, a series of 484 cases treated by it is reported by Mr. Haffkine. After the diagnosis of plague had been made in hospital every second plague patient was at once injected with the serum, the alternate individuals being observed as "controls." In this way 484 inoculated cases were compared with 484 non-inoculated. The general result was that there were 55 fewer deaths among the cases treated with serum but the "controls" were not comparable in their main features with the other cases, for analysis showed that the former contained fewer in whom both pulse and respiration rates were slow—the class of case in which the lowest mortality occurs; also the cases treated with serum had fewer septicæmic and pulmonic varieties which are practically all

fatal. Again, the control group contained more cases between the ages of 21 and 40 years, the period in which the highest mortality occurs. Mr. Haffkine and Dr. C. T. Costello report on 110 cases treated with Terni's anti-plague serum. Compared with control cases the mortality of those treated with the serum was practically equal and the latter lived on an average eight hours longer. The serum appears to have benefited the severer cases but not those of a milder type. The results given by a series of 70 cases of plague treated with Brazil's anti-plague serum, again, do not show that any influence has been exerted by it on the course of the disease. There was, it is true, a 2·85 per cent. less mortality amongst the cases treated with serum, but it is highly problematical if this can be credited to the effects of the treatment; for in one hospital we find that of the serum-treated patients 10 per cent. more died, whilst in the other 8 per cent. fewer of the cases had a fatal termination. Dr. W. G. West reports on a series of 68 cases treated with Roux's serum contrasted with 68 control cases. The mortality in the former was 66·17 per cent., whereas in the latter it was 60·29 per cent., a difference in favour of the control cases of 5·86 per cent. Lieutenant-Colonel Bannerman in his judicious summary of these various reports well remarks that it is evident that we have to deal with a remedy much less effective than serum proves itself to be in the case of diphtheria. The case mortality does not appear to have been affected in the slightest degree. But from the standpoint of clinical evidence there is more hope in the outlook. Almost all those who have reported on the use of serum in their wards or in private practice emphatically state that it acts favourably on the course of the disease. The serum-treated cases live longer than the control cases; there were a lowering of the temperature, a lessening of the pulse- and respiration-rate, a general improvement in the patient's condition as to physical comfort, a lessening of delirium and restlessness, and a disappearance of the buboes with diminution of pain. As Mr. Haffkine observes, it is curious that although serum is powerless to affect the case mortality of hospital cases yet it prolongs life. One explanation of this may be that the proper method of administration has not yet been arrived at, for undoubtedly the serum administered to animals artificially infected with plague proves efficacious. Dr. Roux's recommendation to give the serum intravenously would seem to be in the right direction, for time is everything in the treatment of so virulent a disease as plague. However, these disappointing results in the curative treatment by serum in India are not found to ensue elsewhere. Thus in a recent paper by Dr. James A. Haran on plague as met with in British East Africa the author states "that the hypodermic injection of Yersin's serum is of the highest value." Finally, the therapeutic effects of the anti-plague sera stand out in marked contrast to their prophylactic action as regards beneficial action.

JOURNALS AND MAGAZINES.

The Medical Chronicle.—In the March number Dr. W. B. Warrington discusses Chronic Rigidity of the Spine as described by Bechterew, Marie, and others. He gives the notes of three cases and concludes that the condition is not a specific disease. The prognosis is variable and the most hopeful treatment is by hydropathic measures and massage. Dr. Cuthbert Lockyer contributes a learned and highly technical paper on the Physiology and Pathology of the Corpus Luteum, referring especially to Fraenkel's work on the importance of this tissue in relation to the nutrition of the fœtus.

The Medical Review.—Mr. Jordan Lloyd's paper on the Treatment of Facial Neuralgia by Excision of the Gasserian Ganglion is concluded in the February number, details of 11 cases being given; all were cured of their neuralgic symptoms and no death occurred in the series. A paper signed H. Manley treats of the office of coroner and concludes by demanding a proper degree of medico-legal knowledge in all these officials and also some reform of the system of death certification. Incidentally it is pointed out that medical men are under no statutory obligation to report any suspicious death to the coroner, the police, or the registrar.

The Journal of Physiology. Edited by Sir MICHAEL FOSTER, K.C.B., F.R.S., and J. N. LANGLEY, Sc.D., F.R.S. Vol. XXXIII., No. 6. Feb. 5th, 1906. London: C. F. Clay. Pp. 68. Price 4s.—This number completes the thirty-third volume of the *Journal of Physiology* and contains the following articles: 1. The Separation of Phosphorus from Caseinogen by the Action of Enzymes and Alkali, by R. H. Aders Plimmer and W. M. Bayliss, with two figures in the text. The authors' experiments show amongst other points that nearly the whole of the phosphorus of caseinogen is converted into a soluble form by the action of trypsin in 24 hours. The curve for its rate of separation is exactly parallel to the curve of the electrical conductivity for the first seven to eight hours; its rate of separation after this time is less rapid. The soluble phosphoric acid consists of inorganic phosphoric acid 35 per cent., and phosphorus combined in an organic form 65 per cent. The phosphorus of caseinogen is very slowly converted into a soluble form by the action of pepsin. Papain, in its action on caseinogen, is intermediate in power between pepsin and trypsin, acting best in a neutral or faintly acid medium. Ovovitellin, containing lecithin, is very slowly digested by trypsin in comparison with caseinogen. 1 per cent. of caustic soda converts the whole of the phosphorus of caseinogen into soluble phosphoric acid in 24 hours. The soluble phosphoric acid thus formed is almost entirely inorganic phosphoric acid. 2. On the Absorption of Proteids from the Intestine, by E. P. Cathcart and J. B. Leathes. The authors find that when "peptone" albumoses or the final products of pancreatic digestion are absorbed from the intestine there is a constant small increase in the amount of nitrogenous substances contained in the blood which are not precipitated by tannic acid; this is sufficient to account for about 15 per cent. of the nitrogen absorbed. There is a similar increase in these substances in the liver. A flow of urine may be set up by the absorption of such substances in dogs previously in a condition of inanition and under anæsthetics, and in this urine a very considerable amount of nitrogen may appear. 3. On the Identity of Trypsinogen and Enterokinase respectively in Vertebrates, by J. Molyneux Hamill, M.A., M.B. Cantab., B.Sc. Lond. The author thinks these two substances are not specific for each animal but are always the same definite chemical compounds. 4. On the Mechanism of Protection of Intestinal Worms and its bearing on the Relation of Enterokinase to Trypsin, by J. Molyneux Hamill, M.A., M.B. Cantab., B.Sc. Lond. The author states that the antibody in the tissue juices of intestinal worms is antitryptic in its action and in neutral or acid extracts of intestinal worms is uninjured by boiling, but if made even faintly alkaline the anti-action is immediately destroyed on boiling. The antibody is soluble in weak alcohol but is precipitated by 85 per cent. The precipitate dissolves easily in water, the solution strongly inhibiting the proteolytic activity of pancreatic juice. The antibody diffuses readily through colloid membranes. 5. A Method for the Determination of the Volume of Blood in Animals, by C. Gordon Douglas, B.A., with one figure in the text. This number of the journal contains, also, the Proceedings of the Physiological Society for Dec. 16th, 1905, and also the index to the thirty-third volume of the journal.

The Journal of Tropical Veterinary Science.—The advances which have been made in the investigation of diseases of animals in tropical countries have been as great as in the case of diseases which afflict humanity and the advent of a journal in which scientific observations on these diseases in animals can be made will be heartily welcomed by all those who take an interest in comparative pathology. Many of these diseases are common to both man and animals, and during the last few years the importance of a properly trained and equipped staff of modern veterinary workers in all our colonies has been fully acknowledged. The editors of this new paper are Major Pease, M.R.C.V.S., F.Z.S., F.R.G.S., Principal of the Punjab Veterinary College; Captain Baldrey, F.R.C.V.S., F.R.G.S., Professor of Sanitary Science in the Punjab Veterinary College; and Mr. R. E Montgomery, M.R.C.V.S., at present on special duty investigating camel diseases. The first number consists of some 120 pages and contains the following articles: "A New Species of Trypanosoma together with a New Metrical Method of Standardising the Measurements of Trypanosomata," by Professor A. Lingard, M.B. Durh., M.R.C.S. Eng., D.P.H. Cantab., Imperial Bacteriologist to the Government of India; "Observations on Bilharziosis among Animals in India," by Mr. Montgomery; "Some Observations on Normal and Rinderpest Blood," by Captain Baldrey; "Tibarsa Surra—Trypanosomiasis in the Camel," by Major Pease; and "The Transmission of Trypanosomiasis Evansi," by Professor Lingard. The journal is published by Messrs. Thacker, Spink, and Co., Calcutta, and it can be obtained from Messrs. Thacker and Co., 1, Creed-lane, Ludgate-hill, E.C., the subscription being 17*s.* 6*d.* annually.

Reports and Analytical Records
FROM
THE LANCET LABORATORY.

(1) CREAM EMULSION OF COD-LIVER OIL; AND (2) HÆMOSTASIN.
(BURGOYNE, BURBIDGES, AND CO., 12 AND 16, COLEMAN-STREET, LONDON, E.C.)

1. THE emulsion of cod-liver oil quite merits the use of the word "cream" in its title, as under the microscope it presents an analogous appearance, the globules of oil being in a very finely divided state. It is reasonable to think that oil "atomised" so to speak in this way is easily digested. The emulsion is, moreover, permanent and its flavour is not objectionable. It is stated that the administration of this oil is not succeeded by nausea or disagreeable eructations. 2. Solutio hæmostasini hydrochloridi is a clear colourless liquid containing a definite amount of the active principle of the suprarenal gland and is therefore an effective astringent and hæmostatic.

CALVES' FEET JELLY.
(S. J. MACKENZIE AND CO., SHACKLEWELL-LANE, DALSTON, LONDON, N.E.)

Calves' feet jelly is of distinct service in dietetics inasmuch as it is a pleasant addition to the diet of the invalid and the convalescent, while it has the advantage of absorbing an excess of acid in the process of digestion and is therefore valuable in acid dyspepsia. Gelatin is, of course, also a proteid sparer. Theoretically, any kind of gelatin answers the purpose but practical experience is decidedly in favour of real calves' feet jelly. We believe that the specimens submitted to us are accurately described as real calves' feet jelly and the makers state that they are the only manufacturers of calves' feet jelly in the United Kingdom. Amongst the jellies examined were specimens flavoured with wine and cognac and a specimen without these additions. The alcohol amounted to 3½ per cent. by volume. The flavour of the jelly was excellent and such as might be expected of preparations of which it is said that they are not made from foreign glue or gelatin. The jellies were entirely free from metallic impurities.

CREAM OF MALT WITH COD-LIVER OIL AND GUAIACOL CARBONATE.
(OPPENHEIMER, SON, AND CO., 179, QUEEN VICTORIA-STREET, LONDON, E.C.)

In prescribing creosote or guaiacol the addition is sometimes ordered of malt extract either with or without cod-liver oil. The above preparation has been made to meet this requirement. We found that the digestive action on starch was very satisfactory. We are told that this preparation has been used with very good results in the treatment of pulmonary tuberculosis.

CLARET VIERGE.
(INGRAM AND ROYLE, LIMITED, EAST PAUL'S WHARF, 26, UPPER THAMES-STREET, LONDON, E.C.)

This is a sound light claret giving perfectly normal results on analysis, as the following figures show: Alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent.; extractives, 2·16 per cent.; sugar, 0·11 per cent.; glycerine, 0·56 per cent.; tannin, 0·26 per cent.; mineral matter, 0·26 per cent.; volatile acidity reckoned as acetic acid, 0·036 per cent.; and fixed acidity reckoned as tartaric acid, 0·52 per cent. As will be seen, the wine is practically free from volatile acid and contains a minimum amount of sugar. We believe it to be a genuine claret but it is somewhat lacking the æsthetic qualities of a "classed wine."

(KNOLL).
(KNOLL AND CO., 27A, ST. MARY-AT-HILL, LONDON, E.C.)

Santyl is described as a tasteless, perfectly non-irritant salicylic ester of purest sandal wood oil. It is without smell and practically without taste, which of course distinguishes it agreeably from sandal wood oil. Santyl is a yellowish oil having about the consistence of glycerine; it is not miscible with water. It readily saponifies with alcoholic soda, the salicylic acid being separated by this treatment. It is used in the treatment of acute gonorrhœa and its complications. The drug is said to be without irritating effects on the gastro-intestinal tract and to relieve the pain. It is administered in the form of drops or in capsules.

WORCESTERSHIRE SAUCE.
(W. S. COURTENAY, SOUTH QUAY, WORCESTER.)

This is a pleasant, piquant sauce which is stated to be prepared from the best ingredients, while care is taken to exclude objectionable preservatives. In view of the results of our analysis we can take no exception to this statement.

ETHYLOFORM (DUBOIS KUHN).
(B. KUHN AND CO., 16, ROOD-LANE, LONDON, E.C.)

Ethyloform is a mixture of ethyl chloride, ethyl bromide, and methyl chloride, the exact proportions being 45 per cent. each of ethyl chloride and methyl chloride and 10 per cent. of ethyl bromide. We have satisfied ourselves of the absolute purity of the individual ingredients. In doses of five cubic centimetres administered absolutely unmixed with air a narcosis, it is stated, is brought about lasting from 30 to 40 seconds which is sufficient for certain operations in aural, nasal, and laryngeal surgery. The most important claim made in regard to ethyloform when used for inducing general anæsthesia is that it has no excitant effect. Children, it is asserted, do not exhibit the same early period of excitement which sometimes is produced when ethyl bromide is used alone. Ethyloform is said to bring about a narcotic sleep which is perfectly quiet and as a rule no resistance is manifested by the patient. With respect to the safety of this mixture it must be borne in mind that danger in connexion with the use of bromide of ethyl has been frequently demonstrated. We are averse to anæsthetic agents or mixtures being sold under fancy names when they contain drugs the action of which is distinctly dangerous even when used with the utmost caution and by those who are fully aware of their properties and conversant with their uses.

THE LANCET.

LONDON: SATURDAY, APRIL 14, 1906.

The Anæmia of Tuberculosis.

IT is a familiar fact that tuberculosis leads to some degree of anæmia but few observations have been made to establish the relation between the nature of the anæmia and the extent or variety of the tuberculous process. An important paper dealing with this subject has been published by Professor MARCEL LABBÉ in the *Revue de Médecine*, No. 3, 1906. He finds, as might be expected in a disease subject to so many variations, that no constant relation exists between the degree of anæmia found and the several stages in the course of the disease, for various incidents, such as fever, diarrhœa, profuse sweats, and hæmorrhage, may all exert an influence upon the state of the blood. He has studied a number of early cases and a further number of advanced cases with reference to the clinical manifestations and the condition of the blood. He has paid especial attention to the condition of paleness, or *ochrodermia* as he calls it, which proves to be by no means necessarily indicative of anæmia, and the result of his researches is a decidedly valuable contribution to clinical medicine.

In early stages of tuberculosis Professor LABBÉ finds the following three different conditions: (1) ochrodermia without anæmia; (2) ochrodermia with slight anæmia; and (3) anæmia and ochrodermia—the chlorotic form. In reference to the first of these Professor LABBÉ finds that although some degree of paleness or ochrodermia is almost constant in the subject of early tuberculosis the condition of the blood may not infrequently be normal, indeed, in some cases there may be a slight excess in the number of red corpuscles, a condition which he regards as compensatory, analogous to the similar condition found in other conditions of defective oxidation with cyanosis. The majority of cases of early tuberculosis, however, fall into the second category. The patients are pale, slightly wasted, of fatigued or weary expression, the mucous membranes appear slightly pale, and the margin of the nostrils, the naso-labial folds, the circumoral region, and the ears appear distinctly blanched. Examination of the blood shows a slight reduction in the number of the red corpuscles and a reduction in the percentage of hæmoglobin, so that the corpuscular index sinks to 0·75 or 0·65. The third group of cases comprises those who present the typical appearance and the characteristic condition of the blood seen in chlorosis and is of great importance, since the signs of the tuberculosis underlying the condition are liable to be overlooked unless careful search is made for them. Indeed, it has been maintained by M. LANDOUZY that chlorosis is much more often the result of tuberculous infection than is commonly believed. Professor LABBÉ likewise insists that chlorosis is not to be regarded as a morbid entity but rather as a symptom-complex resulting from some other condition, frequently tuberculosis. In support of this contention he gives details of a number of illustrative cases all having the typical features of chlorosis but showing also early signs of tuberculous infection or giving a reaction with tuberculin. He also points out that in many of these patients there is a history of tuberculosis in the parents or a personal history of glandular or osseous tuberculosis. He has, moreover, found that in women with definite signs of tuberculosis there is frequently a history of chlorosis or anæmia at puberty.

In reference to chronic tuberculosis the cases fall into three very similar groups. In the majority of these cases there are both anæmia and ochrodermia. The number of the red corpuscles in the cases examined varied between 2,914,000 and 4,340,000, while the percentage of hæmoglobin was always diminished and the corpuscular richness was in some cases as low as 0·60 and never exceeded 0·93. In this group of cases there is invariably some degree of fever and frequently secondary infection by streptococci or staphylococci. In another group there may be a condition of anæmia without ochrodermia. The red corpuscles were found to be diminished considerably in this group but the corpuscular richness was usually at or near the normal. This type may occur in almost any variety of the disease, whether febrile or apyretic, fibroid or caseous. The third group of cases is characterised by ochrodermia without anæmia, examination of the blood showing no diminution of corpuscles or hæmoglobin and giving a normal corpuscular index. According to GRAWITZ these cases are the most numerous and the explanation offered is that after the initial anæmia produced by the disease a compensatory concentration of the blood is brought about, so that, although the blood appears normal, it is, in fact, diminished in quantity. It is to the exudation of fluid from the vessels to the tissues that the ochrodermia is due. Professor LABBÉ, while admitting the occurrence of oligæmia, thinks that it is less common than is maintained by GRAWITZ and does not agree with the explanation offered by him that it is due to soluble substances secreted by the bacilli which disturb the osmotic relations of the blood and the tissue fluids. Professor LABBÉ is of opinion that different treatment is indicated by these variations of the condition of the blood, recommending arsenical and ferruginous preparations in those cases with marked changes in the blood but not in those without anæmia. The paper gives evidence of much painstaking research and is a valuable contribution to the subject. Perhaps too much stress is laid upon the state of paleness, which is a condition likely to vary much in the same patient. However, one of the main points of Professor LABBÉ'S thesis is that this ochrodermia is not to be regarded as an evidence of anæmia but that examination of the blood is the only test.

A Counterblast to Tobacco.

THE commencement of a new session of Parliament, and pre-eminently the commencement of the first session of a new Parliament, is liable to be marked by attempts at legislation on the part of private members, which are comparable in their sagacity to the procedure of that Gothamite

who, possessing a heap of rubbish, decided upon digging a hole in which to bury it and who ignored the fact that after the completion of his undertaking the original contents of the hole would still be left upon his hands. The "Juvenile Smoking Bill" which has been introduced into the House of Commons by Dr. MACNAMARA, and which is backed by a curiously assorted selection of the names of other Members, appears to us to be precisely a case in point. It is, indeed, introduced by a memorandum which sets forth that it is designed to carry out certain unanimous recommendations of the Committee on Physical Deterioration of 1904, these being that a Bill should be introduced into Parliament at an early date, having for its object (1) to prohibit the sale of tobacco and cigarettes to children below a certain age; and (2) to prohibit the sale of tobacco and cigarettes in sweet and other shops frequented by children. On this somewhat slender basis there has been superimposed a Bill which provides that no person shall sell, give, or supply tobacco in any form to, or for the use of, any person under the age of 16 years on a penalty not exceeding 20*s*. for the first offence, 40*s*. for the second or any subsequent offence, and forfeiture of any tobacco licence for a term of five years after a third conviction, the onus of proof of age to rest upon the person charged under the Act. Like BYRON'S description of a certain ecclesiastical formula, the Bill is "sententious, positive, and terse," but it is difficult to believe that those responsible for it can seriously entertain the idea that it will be accepted by the legislature. Dr. ARTHUR SHADWELL, in his recent instructive and interesting book on "Industrial Efficiency," institutes a comparison between the law making of Great Britain, of Germany, and of the United States. In Germany, he tells his readers, laws are framed with great care and are intended to be observed. In America they are framed with very little care, in response to passing gusts or impulses of opinion, and are violated constantly, deliberately, and with impunity. In Great Britain the conditions are of a somewhat intermediate character, but the Juvenile Smoking Bill, if it became law, would certainly illustrate the alleged American condition of affairs. Assuming the view of the Committee on Physical Deterioration to be correct and legislative prohibition of juvenile smoking to be desirable, it is perfectly clear that any disregard of the prohibition should bring down penal consequences upon the juvenile smoker himself and not merely upon a comparatively remote agent whose action had been contributory to the offence. It is true that the wisdom of Parliament has imposed penalties of a more or less futile description upon publicans who supply notorious drunkards with the means of indulgence but it has not suffered the drunkards themselves to go free. If it be right that a boy under 16 years of age should be forbidden to smoke, it is right that he should be punished for disregard of the prohibition and it is no answer to say that the pecuniary penalty which, at least in the first instance, would be the only one which it would be possible to inflict, would fall in reality upon the parent. If the Bill in its present form became law no abatement of juvenile smoking could reasonably be expected from it.

The Utility of Isolation Hospitals.

THE progress of epidemiological research has within recent years doubtless led to a material modification of the views which were held by some sanitarians wellnigh a quarter of a century ago as to the degree of utility of isolation hospitals, and the change of opinion which has been gradually brought about comes somewhat as a shock to those who have held the more extreme ideas up to the present time. It was suggested by some of those who were instrumental in initiating the isolation hospital movement, even as has recently been suggested by some rather extravagant advocates of sanatoriums for consumption, that, given these institutions in sufficient number, all the diseases for the isolation or treatment of which they were intended would shortly disappear. It may, however, be doubted whether in regard to isolation hospitals this exaggerated conception has received any support at the hands of competent epidemiologists during recent years. The study of the natural history, including, of course, the bacteriology, of infectious diseases has taught us that many cases, perhaps even the majority, are likely, with our present somewhat imperfect administrative methods, to escape recognition and, consequently, notification.

In these circumstances it is hardly to be wondered at, more particularly when the varying prevalences of certain of the acute exanthemata are held in view, that there is difficulty in demonstrating by statistics the value of isolation hospitals, and while we would not suggest that in this respect statistics may be made to prove anything we do doubt whether it is wise to attempt to apply them to a problem of which none of the factors are constant—a varying host, a varying parasite, and, in some instances, a varying age-grouping of the population. Moreover, it is obviously impossible to infer what might have been the prevalence of a disease in any given district in the absence of an isolation hospital. So far back as Dec. 8th, 1900, we published a leading article upon this same subject and referring to past beliefs as to the stamping out of disease by isolation hospitals alone we remarked:—

> At that time the natural history of infectious diseases was but imperfectly understood. Men thought that such diseases were the sole prerogative of the human race; they ridiculed those whose insight and genius led them to infer otherwise. Moreover, the idea that pathogenic organisms might have a saprophytic existence or that the time spent by the organism in the human economy might be but a phase in the life-history of such organism, found no acceptance. The last decade of the century has, however, taught us that certain animals and insects may share in the propagation of disease, that pathogenic organisms may here and there maintain their existence in the soil, and that diseases are apt to have their variations in intensity altogether irrespectively of what are commonly termed sanitary conditions.

The above considerations are, we think, as applicable now as when they were written and they may be borne in mind by the readers of an interesting paper by Dr. J. C. THRESH on the subject of this article which we publish elsewhere in our present issue. Dr. THRESH furnishes figures which, in his view, tend to show that in certain districts in Essex the establishment of isolation hospitals has not been followed as a matter of course by reduction in the prevalence of scarlet fever or of diphtheria. In some districts

these diseases have increased and in others they have decreased but their behaviour does not demonstrate, Dr. THRESH thinks, the utility of isolation hospitals and looking only at the figures furnished probably few would gainsay this contention. Figures are also given which, it is claimed, show that "where patients were removed from houses in which there were other susceptible persons, practically as many were attacked as in those cases where the patients were not removed." The figures with reference to the Romford urban and rural districts are also instructive, as they might be held by some to suggest that in the urban district the isolation hospital has produced a decrease in the incidence of diphtheria, while in the rural district the same hospital has produced an increase in such incidence. With regard to the decrease in both the Romford districts in the incidence of typhoid fever Dr. THRESH suggests that "it is very probable that the diminution in the average of cases of typhoid fever is due to the removal of the patients to hospital, as a very large proportion of those attacked are promptly removed." If this be the true explanation, it is somewhat remarkable that the disease which is the least infectious of the three under discussion should be the only one to exhibit the effect of isolation, more especially when it would appear from the statistics relating to the Chelmsford rural district which are given in the first part of the paper that there has been in that district a continued decrease in the number of cases "although persons suffering from this disease have not been removed for isolation."

But, as Dr. THRESH clearly recognises, it is very difficult to demonstrate the precise effect of isolation hospitals by means of statistics which require a large amount of qualification before they are of any value for comparative purposes. In a comprehensive study of the problem, such as we suspect Dr. THRESH has in view in the reflections embodied in his paper, it would be necessary to ascertain accurately what proportion of the notified cases were removed to hospital, at what period of their illness they were so removed, what were precisely the methods adopted for disinfecting the invaded houses, by whom this was done, and to what extent infective "contacts" were sought for. It is, of course, conceivable that in many instances the maximum opportunity for the spread of infection has been exercised before the case is recognised and isolated, and that the earlier recognition of the disease and removal of the patients might lead to more light being thrown on the problem. Dr. THRESH is, however, we gather, decidedly in favour of isolation hospitals, notwithstanding his inability to demonstrate their value by statistics; and there are those who will agree with him that there are obvious difficulties in providing in some of our smaller and poorer districts such an amount of accommodation as will enable every case of infectious disease to be isolated. In our view there should be the nucleus of an isolation hospital provided for, or available by, every sanitary authority, and where the provision is but small those cases should have preference which occur in overcrowded houses containing susceptible persons, in houses from which other children are attending school, or in places connected with the food-supply or clothing of the public. Efforts should be made to search out unnotified or "carrier" cases and more detailed attention should be paid to disinfection—in a word, more use should be made of our recent knowledge.

Annotations.

"Ne quid nimis."

THE TREATMENT OF PULMONARY TUBERCULOSIS AMONGST THE POOR.

THE Aberdeen Medico-Chirurgical Society has issued an interesting memorandum on the subject of the treatment of pulmonary tuberculosis amongst the poor. Suggestions are made for a local scheme for dealing with the disease which, if they can be carried out, will go far towards removing some of the chief difficulties generally experienced in this country in the treatment of pulmonary tuberculosis amongst the working classes. The proposed scheme is an extensive one and we can only draw attention to a few points which we consider of special importance. It is suggested that an institution shall be founded in Aberdeen for dealing with pulmonary tuberculosis, the objects of which shall be to consider questions relating to the subject and to take action in regard to the cure and the prevention of the disease. The institution is to be controlled by a managing board with medical officers. Amongst the duties of the proposed board are: (1) the provision for the treatment of some of the cases of pulmonary tuberculosis which come under its notice, either directly by the means at its command or by recommending them to other institutions; and (2) to arrange for the keeping of all patients under observation whilst they are residing in the locality, and for the inspection and medical examination of the homes and families of such patients during the lifetime of these patients and for as long afterwards as may seem right to the board, with the aim of preventing the continuance and spread of the disease. The observation of what may perhaps be called "contact cases" in respect to pulmonary tuberculosis is of importance and would be of considerable aid in helping to stamp out the disease. It is further proposed that the board shall procure a suitable site and erect thereon a sanatorium for the treatment of pulmonary tuberculosis in the early stage. From this arises an important but difficult point. One of the chief drawbacks to treating the disease amongst the working classes is the natural reluctance of the patients to remain for the necessary length of time at the sanatorium. This is especially the case if the patient is married, the man or the woman, as the case may be, wishing to return home and to help in the support and management of the home. It is therefore set forth in the scheme that provision may be made for the dependents of those who are not paupers during such time as the patients may be under treatment or for such longer period as the board may see fit. In the event of such patients returning to work arrangements may be made with these patients for the payment of a certain sum per week or other period as the board may see fit, the total sum received by such payments not to exceed the amount expended in the relief of their dependents. This suggested repayment by the patients is certainly a matter which might be considered by other institutions. Further, it is to be understood, as stated in a printed form to be signed by each patient applying to the board, that he will receive treatment or advice on condition that his home and family shall henceforward be subject to such medical inspection as the board may direct. This is an attempt to attack the sources of the disease directly and should prove a valuable prophylactic measure. Other useful suggestions are that the board shall keep

itself informed as to the time of discharge of patients from the sanatorium and as to their capacity for work and shall take such measures as it may see fit with the object of obtaining work of a suitable character for them. Also, that the board shall communicate with institutions where advanced cases may be received with the view of making provision as far as possible for isolating such cases. Finally, that the board shall communicate with such convalescent homes or cottage hospitals or other institutions in which convalescent cases may be admitted with the object of making provision for the further treatment, if necessary, of such patients as may leave the sanatorium unfit to resume their work. The carrying out of the above proposals will need a considerable amount of funds, but if the necessary sum is forthcoming a most valuable method of procedure will be established.

DUST AND SMOKE IN DAILY LIFE.

AN interesting address was delivered by Sir Dyce Duckworth at a recent meeting of the National Health Society at 20, Hanover-square, London, W., in which he dwelt upon the ubiquity of dust and its universally mischievous influence upon life all the world over. Dust in a drawing room—whether London dust or, say, Manchester dust—was very different, he pointed out, from dust in the streets of Cairo or on the Polar ice and the slopes of the Himalayas, but wherever a man was he lived in a perpetual shower of dust more or less dense. Home-made dust and that produced by trades were of many kinds, some harmless and some noxious but all mischievous in large quantities. The present rebuilding of London was a grievous trial to many citizens, yet the volumes of dust which the housebreaker was now permitted to spread over large areas of streets could be saved by spraying with water and such remedial measures ought, he maintained, to be compulsory on our municipal authorities. Sir Dyce Duckworth next had a fling at the disgusting habit of some women in wearing trailing garments upon dirty pavements. We think that he exaggerated this custom, especially when he described it as being common among well-dressed or so-called fashionable people. In London, at any rate, our well-dressed women, possibly in imitation of their Parisian sisters, are nowadays particular not to drag their skirts along the ground when out of doors; but there are offenders among us still, though they may no longer have the example of fashion to quote as an inadequate excuse, and on these, let us hope, Sir Dyce Duckworth's words will have effect. At the close of the lecture the chairman, Dr. J. F. W. Tatham, reviewing what had fallen from the lecturer touching that kind of "dust" which results from atmospheric pollution by chimney smoke, remarked that although the smoke nuisance was undoubtedly great in the metropolis, yet the Londoner's condition in that respect was enviable as compared with that of the dwellers in the great centres of industry in Lancashire. As medical officer of health of one of those industrial centres it had been at one time his duty to combat the smoke fiend, and he had found it no easy task to do so effectually because of the enormous financial interests involved in the right commonly assumed by manufacturers to pollute the atmosphere with factory smoke. Dr. Tatham here put his finger on the crux of the matter. Manufacturers, many of them at any rate, are deaf to the argument that the emission of unconsumed smoke, apart from hygienic considerations, involves enormous waste of valuable fuel and until they can be made to awake to the real state of things the cause of reform tarries. The medical profession, acting through the officers of the sanitary services, can do little, for outside the metropolis medical officers of health throughout the country hold their appointments at the will of practically the smoke-producers themselves, who are all-powerful in their several neighbourhoods. The futility in these circumstances of attempting to remedy either this or any other condition prejudicial to health so long as the chief sanitary advisers of the local authorities are quite subject to the authorities was well brought out by Dr. Tatham, and Sir Dyce Duckworth, in acknowledging a hearty vote of thanks for his lecture, intimated his entire concurrence with the remarks of the chairman. Sir Dyce Duckworth censured the apathy and *laissez faire* of the central authorities in this matter and held that if they were in earnest in the desire to provide adequately for the protection of the public health it was absolutely essential that the advisers of the sanitary authorities, the local medical officers of health, should have a free hand, and that the local authorities should be deprived of their present power to overrule their advice and to determine their appointments.

RUPTURE OF THE ŒSOPHAGUS FROM EXTERNAL INJURY.

IN the *Medical Record* of Jan. 6th Dr. H. E. Lomax has reported a case of a very rare injury—rupture of the œsophagus from external violence. About 9 A.M. a woman, aged 44 years, was caught between the trap-door of an elevator and a brick wall in a space which measured about nine inches. The pressure was sufficient to break the door in pieces. Dr. Lomax saw her about ten minutes after the accident, when she was sitting in a bent position and complaining of dull pain in the lower part of the left mammary region. She was perfectly conscious, had not fainted, and insisted that she was not hurt. But examination showed cyanosis, especially in the regions of the mouth, ears, and in the finger-nails. The respirations were 32 and laboured. The pulse was 120, weak, and somewhat intermittent. The temperature was 98·6° F. There was an irregular bruised area over the left breast. A wound seven centimetres long extended from the umbilicus upwards and outwards and was surrounded by discoloured and scratched skin. The wound extended down to the transversalis muscle which was separated from the internal oblique for a considerable distance. A hypodermic injection of nitroglycerine and inhalations of ammonia were used and the cyanosis disappeared. The possibility of internal injury was explained to the patient and she was advised to go to hospital but she declined. A more complete examination at 10 A.M. showed a pulse of 92 and fair quality, respirations of 24 and not laboured, and no cyanosis. Although the patient insisted that there was no pain in the pelvic region crepitus was detected there. Normal urine had been voided at 9.45. The left inguinal and hypogastric regions were dull but not tender. The trunk and the limbs showed many bruises and abrasions. The wound was sutured and the patient was ordered to keep absolutely at rest in bed and to take no nourishment until she was seen again. But she sat up in a chair and partook freely of broth and milk. When seen again, at 5 P.M., her expression was anxious and she complained of severe pain in the left chest. The respirations were 60, jerky, and accompanied by retraction of the suprasternal and supraclavicular fossæ. The pulse was 160, weak, and thready, and the temperature was 99°. Respiratory movements were exaggerated on the right side and diminished on the left. The lower part of the chest on the left side was dull and the dulness changed with the position of the patient. There was a slight cough which was increased on taking food. Death occurred at 8 P.M. The necropsy showed about 400 cubic centimetres of blood-stained serous fluid in the abdominal cavity. In the transverse colon was an area six centimetres in length in which the subserous tissues were reddish; there were several linear tears. The right pleural cavity contained about 500 cubic centimetres of blood-stained fluid. The left contained about 1100 cubic centimetres of

dark, cloudy, straw-coloured fluid with a sour odour and masses of curd-like material. In the posterior mediastinum two centimetres above the diaphragm was an irregular laceration two centimetres in diameter which opened into the left pleural cavity and from which exuded material similar to that in the latter. A probe passed through the laceration into the œsophagus. There were three fractures of the pelvis. In consequence of its protected position in the posterior mediastinum rupture of the œsophagus from external injury is very rare. In the literature of injuries of the œsophagus Dr. Lomax could find only one undoubted case; it is recorded by Raiimondi and presents many points of resemblance to the case reported above. A man was caught between the buffers of a locomotive and a railway carriage. Cyanosis, emphysema of the suprasternal and supraclavicular fossæ, and right pneumothorax followed. The emphysema extended to the inguinal regions and death occurred. The necropsy showed rupture of the œsophagus, right pleura, and right lung, and extravasation of the contents of the stomach into the pleural cavity.

MEDICAL EXCURSIONS FOR STUDENTS OF MEDICINE.

IN THE LANCET of Feb. 17th we gave some details with regard to the excursions for students of medicine in France which have been organised by M. Etienne Bazot. As it is intended that the forthcoming excursion shall start on April 18th we repeat the chief points. After leaving Calais the excursion will arrive at Lille about 1 P.M. on April 19th. A visit will be paid to the hospital and the Institut Pasteur. Thence the excursion will go to Paris where it will arrive about half-past five in the afternoon. Members of the excursion will be met at the station by a delegation of the board of administrators of the Excursions Médicales Internationales and also by a delegation of the Medical Students' Society. In the evening there will be a dinner and reception. On April 20th various places of interest in the city will be visited and a similar programme will be gone through on the 21st and 22nd. Leaving Paris on the night of the 22nd Angers will be reached on the 23rd and the excursion will be, as we mentioned in THE LANCET of March 24th, received by M. Monprofit. In the afternoon the excursion will go to Nantes where the Institut Pasteur will be inspected. Rennes will be visited on April 25th where the excursion will be received by the University students. The remainder of the itinerary will be taken up by a visit to St. Malo, Mont St. Michel, Caen, Rouen, and Havre, whence the steamer will leave for England at midnight on April 28th.

THE CORPORATION OF GLASGOW AND INFANTILE MORTALITY.

WHEN the International Congress on Infantile Mortality, or as it was specifically termed "Congrès International des Gouttes de Lait," was held at Paris in October of last year two corporations in Great Britain were represented by official delegates—namely, Glasgow and Huddersfield. The report of the Glasgow deputation now before us contains a number of comments on the proceedings of the Congress and suggestions for municipal lines of action with regard to the question of infantile mortality. This report, for which we understand Dr. A. K. Chalmers, the corporation's medical officer of health, is largely responsible, well deserves perusal as a concise account of the proceedings and of the charitable organisations in France which deal in a systematic manner with the food and the feeding of infants and with the instruction of mothers with regard to the general management of their babies. The two chief systems in France dealing with these questions are—first, the "gouttes de lait" or infants' milk depôts; and, secondly, the "consultations de nourrissons," a dispensary system which comprises medical supervision of the infant and in some cases a supply of sterilised or specially prepared milk. Both systems apparently answer very well in France. The Congress agreed that it was desirable (1) that local authorities should take all measures in their power to impress upon mothers the greatly increased liability to disease to which artificially nourished infants are exposed; (2) that "gouttes de lait" should be established as widely as possible under medical supervision and with the encouragement of the local authorities; and (3) that rigorous legislation should be instituted for the supervision of milk destined for the food of infants. "So greatly impressed," continues the Glasgow report, "were the English members of the Congress" with the contrast between the enthusiasm in France and the apathy in their country with regard to the questions of the birth-rate and the mortality of infants "that they unanimously signed and presented a short memorial to the members of the corporations of Huddersfield and Glasgow present at the Congress urging them to take such steps as they thought necessary in order to promote a British conference on the whole question at an early date." This advice has, we believe, been acted upon and the conference which is to take place in London in the summer of this year may be expected to lead to some very useful results.

THE NEW UNIVERSITY COLLEGE AND HOSPITAL, LONDON.

THE new University College Hospital which has been built by the munificence of the late Sir Blundell Maple is, we understand, now complete. The general medical and surgical waiting halls, the medical, surgical, skin, ophthalmic, and dental examining rooms, the ophthalmic and skin waiting rooms, the fully equipped electro-therapeutic department, and the main entrance in Gower-street were the last to be finished. It is expected that an official opening will take place shortly. The new medical school buildings provided by the generosity of Sir Donald Currie have been begun and progress is rapidly being made with them on the commodious site in University-street. In these buildings there will be accommodation for adequately teaching all the subjects required during the last three years of a medical student's career. Ample provision will also be made for research work in all subjects relating to medical study. We are requested to state that a register of former students in the Faculty of Medicine of University College is in course of preparation and former students who can give information about their contemporaries who are in the colonies or abroad are asked to communicate with the secretary. The summer session in the Faculty of Medicine will begin on Monday, April 23rd.

THE SALE OF NARCOTICS IN THE UNITED STATES.

UPON the invitation of the legislative committee of the American Pharmaceutical Association a conference of delegates from the various pharmaceutical associations in the United States has met to consider what steps might be taken to check the sale of narcotics in the United States. As a result of this conference a draft Bill[1] has been formulated to provide against the evils resulting from the traffic in certain narcotic drugs, including cocaine, alpha and beta eucaine, opium, morphine, heroin, chloral hydrate, or any salt or compound of these substances. Section 1 makes it unlawful for any person to sell, to furnish, or to give away any

[1] American Journal of Pharmacy, March, 1906 p. 145.

of these substances or their preparations, except upon the original written prescription of a medical, dental, or veterinary practitioner. The prescription must contain the name of the patient or in the case of a veterinary prescription the kind of animal that it is intended for and must be signed by the prescriber. It must be permanently filed by the pharmacist who dispenses it and must only be repeated upon the written order of the prescriber. No duplicate copy may be made or delivered to any person but the original must at all times be open to inspection by the prescriber and by authorised officers of the law. Provision is made for the sale without these restrictions of minimum stated quantities of preparations of these drugs—e.g., preparations containing two grains of opium or one-eighth of a grain of cocaine in one fluid ounce. Exceptions are made also in the case of preparations containing opium when recommended and sold in good faith for diarrhœa and cholera and when the label bears specific directions and a caution against habitual use; other exceptions include Dover's powder and ointments and liniments plainly labelled "for external use." Section 2 makes it unlawful for a qualified practitioner to supply or to prescribe any of these substances for the use of any habitual user of the same. But the provisions of this section would not prevent any medical practitioner from supplying or prescribing these drugs for a habitual user of narcotic drugs under his professional care, provided that the administration of the same was considered by him to be a necessary part of the treatment. Section 3 provides that any person who shall violate any of the provisions of the Act shall be deemed guilty of a misdemeanour and shall be fined upon conviction for the first offence not less than 25 dollars or more than 50 dollars; for a second offence not less than 50 or more than 100 dollars; and for a subsequent offence not less than 100 or more than 200 dollars, and shall be imprisoned in the county gaol for not more than six months, and if the misdemeanant be a qualified physician, dentist, veterinary surgeon, or pharmacist his licence shall be revoked. The remainder of the Bill deals with the machinery whereby prosecutions shall be set in motion.

TEMPERATURE, RAINFALL, AND SUNSHINE, DECEMBER TO MARCH, 1905-1906.

IT will be seen from the appended table that during the four months December to March the weather generally was milder, more sunny, and in most localities also drier than usual. Places in the south-west and west were naturally milder than those in the centre and east of the kingdom, the mildest being the Scilly Isles (where the sheltered thermometer never went down to the freezing-point), followed at a respectful distance by Jersey, Falmouth, Pembroke, and Torquay, while the coldest of the localities dealt with was Harrogate. The south-western stations, although the wettest, were also the brightest, while the dullest of all was London, with no more than 194 hours of sunshine. The sunshine records for the Scilly Isles and Torquay are rather remarkable, giving, as they do, an average daily duration of slightly more than three hours. Torquay was not quite so equable as most other places but that seems to be due to the warm day temperature, none of the other resorts having a mean daily maximum of 50°. Its nights were no milder than at Dublin and Llandudno. The mean difference between the warmth of the night and the day was small over the kingdom generally, only a little more than 9°, while at Pembroke it was as low as 5° and at Scilly 6°. Bath, which lying in a basin-like valley is noted for its range of temperature, showed the relatively large difference of 14° between the day and the night. It will be noticed that Dublin with its mean temperature of 43·8° was much milder than the south and south-east coasts of England and much more sunny than most places situated inland.

Stations.	Temperature				Rainfall.		Sunshine.	
	Mean maximum.	Mean minimum.	Mean temperature.	Difference from average.	Total rainfall.	Difference from average.	Number of hours of sunshine.	Difference from average.
Douglas (I. of M.)	48	38	42·0	+0·6	13·1	-2·0	347	+53
Blackpool	45	36	40·5	+1·4	10·8	+0·3	343	+89
Llandudno	47	39	43·0	+0·9	9·8	-0·2	327	+65
Pembroke	47	42	44·4	+1·4	12·7	+1·6	351	+43
Falmouth	48	41	44·4	+0·3	17·6	-0·2	388	+51
Scilly	49	43	45·8	0.0	11·0	-1·7	402	+58
Jersey	49	40	44·5	+0·9	11·6	-0·1	391	+13
Torquay	50	39	44·1	+0·8	12·0	-0·5	400	+57
Bournemouth ...	47	37	41·8	+0·8	13·0	*	365	*
Hastings	46	37	41·6	+1·0	9·8	+0·1	361	+20
Folkestone	45	36	40·3	-0·5	6·1	-2·9	339	*
Margate	46	37	41·4	+1·0	5·3	-0·8	299	+10
Lowestoft	45	36	40·2	+0·6	8·3	+1·7	351	*
Scarborough ...	46	36	41·1	+1·7	6·2	-2·0	308	*
Aberdeen	44	35	39·6	+1·2	6·3	-3·6	331	+50
Harrogate	44	34	38·7	+0·8	9·9	-0·2	340	*
Bath	48	34	40·9	+0·2	8·9	-1·3	350	*
Glasgow	44	37	40·4	+1·3	13·1	-0·6	237	+65
Prestwich	44	36	40·2	+1·2	12·1	+0·5	235	+71
Birmingham ...	44	35	39·7	+0·6	7·9	+0·2	230	*
Nottingham ...	45	34	39·7	+0·4	6·6	-0·7	263	
London	47	36	41·5	+1·2	6·5	-0·8	194	+23
Dublin	49	39	43·8	+1·4	9·6	+1·0	329	+28

* No trustworthy averages.

THE LIVERPOOL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST.

WE have received a copy of the forty-second annual report of the Liverpool Hospital for Consumption and Diseases of the Chest, including also that of the sanatorium at Kingswood, Delamere Forest. That portion of the report written by the resident medical officer of the sanatorium is of especial interest. During the year 1905 there were 183 patients under treatment; of these 37 remained at the end of the year and will be dealt with in the report for 1906. Statistics are therefore given of 146 patients who left the sanatorium during 1905. On the whole the results have been good and the prognosis of the early cases as compared with those more advanced is strikingly brought out. Stress is also rightly laid on the educational value of the institution, patients leaving the sanatorium impressed with the absolute necessity of living a quiet healthy life. The results of the treatment are given according to Turban's system of classification. Stage I. comprises those cases in which only part of one lobe is slightly affected or small parts of two lobes are very slightly diseased. Stage II. includes those cases in which one lobe only is diseased and not more than moderately so, or in which parts of two lobes are moderately affected. Stage III. includes all cases in which there is a greater degree of disease than exists in Stage II. Of the 146 cases mentioned above, five are not included in the table of results, one patient having remained only two days in the sanatorium, and no evidence of tuberculosis could be detected in the other four. 33 patients were in "Stage I." of the disease, and of these 31 showed "very great improvement" and two "distinct improvement"; 47 were in "Stage II.," and 38 exhibited "very great improvement," and nine "distinct improvement"; 61 were in

"Stage III.," and 17 manifested "very great improvement," 33 distinct improvement," ten "slight or no improvement," and one patient died. The true test of these results cannot be determined for three or four years and only then if the subsequent progress of the patients can be ascertained; doubtless every endeavour will be made to keep in touch with them. The immediate results of sanatorium treatment may be fallacious, as owing to the good diet and hygienic life a large number of patients even in Stage III. improve temporarily, only to relapse on leaving the institution. Nevertheless, the results obtained in those patients who were in the early stage of the disease are very encouraging.

THE NATURE OF THE SALIVA IN ITS RELATION TO CARIES OF THE TEETH.

IN the investigations that have been made in the pathology and etiology of dental caries but scant attention has so far been given to the nature of the saliva although research in this direction is urgently needed. Dr. C. Rïsa, who has already done some excellent work in caries, has recorded in the *Deutsche Monatsschrift für Zahnheilkunde* for December, 1905, the result of the analysis of the saliva in 219 children of an average age of 13 years. He has been able to confirm the views of other investigators to the effect that there is a distinct relationship between dental caries and the alkalinity of the saliva and he finds that a high alkaline reaction constitutes the best means of combating the development and progress of caries. He has carried out a considerable number of experiments to determine the means by which slightly alkaline or acid saliva may be modified so as to render its reaction decidedly alkaline. He finds that a diet consisting of foodstuffs rich in calcium salts increases the alkalinity and quantity of the saliva and he believes that such a diet influences in a marked way the quality of the teeth.

INTRASPINAL INJECTIONS OF SOLUTION OF MAGNESIUM SULPHATE.

IN 1905 Dr. S. J. Meltzer undertook a series of experiments on animals to show that magnesium salts have analgesic properties. The conclusions at which he arrived may be summarised as follows: the application of solutions of magnesium sulphate temporarily abolished the conductivity of nerves; subcutaneous injections produced analgesia over the corresponding area; and intraspinal injections of comparatively small doses produced complete analgesia and paralysis of the posterior part of the body. In monkeys these results were stated to be produced with one-quarter of the dose which would prove fatal. In the *Journal of the American Medical Association* of March 3rd Dr. Meltzer and Dr. H. A. Haubold have advanced the statement that this method is applicable to man. In order to be within the zone of safety the dose of magnesium sulphate first used was only one-third of that which proved efficient and harmless in animals—i.e., 0·02 gramme per kilogramme of body-weight. Not expecting to produce complete anæsthesia arrangements were made to induce general anæsthesia if necessary. In the first case—perineorrhaphy—at 3.15 P.M lumbar puncture was performed and about five cubic centimetres of cerebro-spinal fluid were permitted to escape. The same quantity of a sterile 25 per cent. solution of magnesium sulphate was injected. An hour later there was marked but insufficient analgesia of the perineum. Chloroform was administered and the operation was begun at 4.20 P.M. and completed at 5 P.M. Only about ten cubic centimetres of chloroform were used, which were sufficient to induce complete anæsthesia. At 7 P.M. there were complete unconsciousness and no reaction to pain in the lower part of the body. In the second case—curettage—the same quantity of magnesium sulphate was injected at 3 P.M. After six minutes profuse perspiration occurred and the patient was fretful. After twelve minutes there was motor paralysis from the pelvis downwards and sensibility was diminished but not sufficiently for operation. Chloroform was administered. Only five cubic centimetres were used. This quantity produced unconsciousness and complete relaxation of all the muscles below the waist, but the conjunctival reflex was preserved. In the third, fourth, fifth, and sixth operations chloroform was administered to induce anæsthesia. In the seventh case it was not required. A youth, aged 16 years, had a large intra-muscular abscess of the thigh. At 2.30 P.M. lumbar puncture was performed and about eight cubic centimetres of cerebro-spinal fluid were withdrawn. The same quantity of the solution of magnesium sulphate was injected (about one cubic centimetre to 15 pounds of body-weight). At 2.50 P.M. the legs were heavy and the reflexes were absent. At 3.15 P.M. the legs were paralysed and analgesic and the operation was begun. The patient felt nothing and the operation was completed at 3.50 P.M. At 5 P.M. he was comatose; the muscles were relaxed and all reflexes were absent except the conjunctival; the pulse was good and the pupils were small. At 6.30 P.M. and thrice subsequently spinal puncture was performed and four cubic centimetres of cerebro-spinal fluid were withdrawn and the same quantity of normal saline solution was injected. At 7.10 P.M. the coma began to diminish. Thus 45 minutes after the injection there was complete analgesia of the leg and three and a half hours after there was complete general analgesia so that an operation could have been performed on any part. In this case the dose was the largest used but it was less than one half that used with impunity in monkeys. The first two cases showed that such a small dose as one cubic centimetre of the solution to 25 pounds of body-weight could produce complete analgesia of the lower part of the body, but not until three hours after injection. Vomiting and retention of urine occurred in most of the cases. Dr. Meltzer and Dr. Haubold think that as magnesium is a normal constituent of the body it would be better to use it for the production of spinal analgesia than foreign substances such as cocaine. The length of time involved in preparing for trivial operations and the severity of the effects produced seem hardly to recommend the method.

THE STATUS OF THE HAMPSTEAD GENERAL HOSPITAL.

IN another column we give an account of the proceedings at a meeting of the Hampstead division of the British Medical Association which was held on April 6th. Among other matters the management of the Hampstead General Hospital was discussed. This hospital, as was mentioned in a letter from Mr. F. R. Humphreys which appeared in our columns on March 24th, was originally started as a home hospital where local practitioners could themselves continue the treatment commenced by themselves in the patients' own homes under more satisfactory conditions than were possible in the latter. It has now developed into a general hospital with an out-patient department and a staff of general practitioners, with a few pay beds for the patients of practitioners not on the staff. But, and this is apparently the main cause of the trouble, King Edward's Hospital Fund is about to grant a large sum for building purposes and the authorities of the Fund say that they "consider that the time has come when the Hampstead General Hospital should secure the services of an honorary medical staff of consulting surgeons and physicians in accordance with the general practice of other hospitals of like importance." As will be seen by our report of the proceedings at the above-mentioned meeting, very many o-

the local medical men are by no means in favour of such a change. We think that the matter must be left to the sense of the local body of medical practitioners to decide, and as we see that both the chairman of the hospital (in a circular which has been issued) and the local division of the British Medical Association are doing their best to ascertain what this feeling is we defer further comment until we know what is the opinion of those chiefly concerned. And in saying that medical men are chiefly concerned we do not mean in any way to disregard the feelings of patients. But Hampstead has practically no poor and the chief use of a hospital in that district would seem to be to enable medical men to treat comparatively well-to-do patients with greater satisfaction to themselves and greater benefit to the patients than if no hospital existed. If, however, such be the case we do not quite see why King Edward's Hospital Fund should be expected to provide "a large sum" for building or other purposes.

DIET IN TYPHOID FEVER.

THE usual routine diet given in the course of an attack of typhoid fever consists of liquid food, usually only milk is allowed. Some physicians, however, have advocated that a more liberal dietary should be permitted. Dr. A. Claytor, writing in the *New York Medical Record* of March 17th, states that it has been proved experimentally that the digestive and absorptive powers of the body during typhoid fever diminish only to the extent of from 5 to 10 per cent. He also rightly draws attention to the present trend of thought towards the belief that a large number of diseases being due to specific poisons recovery depends upon either the exhaustion of that poison or the development of an "anti-body" which renders it innocuous. In order that the patient may withstand the ravages of the disease until the time of recovery it is necessary, therefore, to maintain the general strength as much as possible. Dr. Claytor emphasises the following points in the selection of a diet for typhoid fever in order that the above principle may be carried out: it must be highly nutritious, easily digested, innocuous, and palatable. In the treatment of his own cases, "no matter what day of the disease" may have been reached, the diet is as follows. The regulation six ounces of milk are given every two hours, night and day, while the patient is awake, but animal broths are given in place of the milk occasionally in order to vary the monotony. "After the subsidence of the more acute symptoms" a soft-boiled or poached egg is allowed and if well borne the number is gradually increased to three or more a day. Jelly or blancmange, custard, soft toast, the soft part of a baked apple, and rice which has been boiled four hours are the next additions. After this, scraped beef or chop, very finely divided chicken, and baked potatoes are tried. Dr. Claytor, however, does not advocate so full a diet in every case, for each patient must be carefully studied as an individual. We do not quite understand what he means by "after the subsidence of the more acute symptoms." Presumably he refers to the period when the temperature begins to fall. The articles of diet which he mentions are easily digested and no hard particles are likely to occur in them if ordinary care is taken, therefore probably no harm will be caused by their ingestion and the patient will be relieved of the monotony of a purely milk diet.

A SPECIAL course of practical training in food and meat inspection for commissioned officers and professional men preparing for the examination for inspectors of meat and other foods will commence on Friday, April 20th, at 5.30 P.M., at the Royal Sanitary Institute. The course will consist of practical training in the inspection of foods and meat and lectures and demonstrations will be given by Mr. James King, M.R.C.V.S., Professor H. R. Kenwood, Colonel J. Lane Notter, R.A.M.C., Mr. R. Glover, F.R.C.V.S., Mr. W. Hunting, F.R.C.V.S., and Dr. E. Petronell Manby. All information in respect of this course can be obtained from Mr. White Wallis, secretary to the institute, Parkes Museum, Margaret-street, London, W.

Sir William and Lady Crookes celebrated their golden wedding on April 10th. We cordially join with all those who recognise the eminent services which Sir William Crookes has rendered to science in tendering our hearty congratulations to them both.

H.R.H. the Princess Royal has consented to receive purses containing donations to the fund now being raised to defray the cost of the first wing of the reconstructed Bolingbroke Hospital, when the foundation stone is laid on Saturday, May 5th.

Dr. W. J. Simpson has left for Singapore, having been asked by the Colonial Office, on behalf of the Government of the Straits Settlements, to go on a commission to inquire into, and to report on, the sanitary condition of the town.

THE UTILITY OF ISOLATION HOSPITALS.[1]

BY JOHN C. THRESH, M.D. VICT., D.SC. LOND.,
MEDICAL OFFICER OF HEALTH TO THE ESSEX COUNTY COUNCIL.

DURING recent years the utility of isolation hospitals has been seriously questioned and many persons who have carefully studied the subject have arrived at the conclusion that they are practically useless for preventing the spread of infection, whilst others who admit that some benefit accrues from their use allege that this benefit is not commensurate with the cost of erecting and maintaining them. There is also a widespread impression amongst medical officers of health and the medical profession generally that scarlet fever patients do not make such rapid and complete recoveries in isolation hospitals as they do when they are treated at home. These are serious allegations and should be carefully considered by members of sanitary authorities. If hospitals are practically useless for preventing the spread of disease, or if the benefits derived from the provision of a hospital are trifling compared with the expense involved, then it is obvious that large sums of money may be wasted or expended with little or no advantage to the community which has to provide it.

Until recent years it was an axiom with all engaged in public health work that isolation hospitals were almost invaluable and that such a hospital was absolutely necessary if an authority wished to cope effectively with epidemic disease. Most unfortunately this opinion was never seriously challenged until recently. In fact, it would have been scarcely possible to produce evidence one way or the other had it not been that in 1891 the Notification of Infectious Diseases Act was passed and that after its adoption it became for the first time possible to ascertain approximately the number of cases of infectious disease which occurred in any district.

I was as firmly convinced of the great utility of isolation hospitals as any other medical officer of health until about 1902, when I discovered that the hospital provided by the Chelmsford rural district council was not having quite the effect I had anticipated. This hospital was erected in 1894 and came into use on Jan. 1st, 1895. For a few years after it was opened the number of cases of diphtheria considerably decreased but scarlet fever showed no such tendency. In 1900, 1901, and 1902 diphtheria became far more prevalent than it had ever been before whilst I had been medical officer for the district, and this notwithstanding that I removed all the cases from the more overcrowded houses. My faith began to be shaken and as figures were then

[1] A report made to the Romford Joint Hospital Board.

being published with reference to other districts showing that statistically the effect of hospitals on scarlet fever prevalence elsewhere had been inappreciable I felt bound to modify my ideas and to speak far more guardedly on the subject. Since then I have very carefully studied all the statistics for this county and in November, 1904, I communicated the results to the sanitary committee of the county council. These results, briefly summarised, were as follows. In 15 urban districts provided with isolation hospitals diphtheria had increased in three, scarlet fever in six, and both diseases had decreased in six. In nine rural districts provided with hospitals diphtheria and scarlet fever had increased in two, diphtheria in three, scarlet fever in two, and the two diseases had decreased in two. In six rural districts without hospitals scarlet fever and diphtheria had increased in one, diphtheria alone in one, scarlet fever alone in one, and both diseases had decreased in three. These results do not show any marked effect following the provision of isolation hospitals and especially in rural districts.

The following table compiled from my annual reports on the Chelmsford rural district will enable us to judge whether the hospital provided there has had any marked effect :—

Cases of Diphtheria, Scarlet Fever, and Typhoid Fever Notified Annually.

For Five Years prior to the Opening of the Hospital.

Year.	Diphtheria.	Scarlet fever.	Typhoid fever.
1890	38	32	16
1891	43	30	14
1892	98	55	17
1893	80	84	22
1894	73	81	8
Totals... ...	332	282	77
Averages ...	66	56	15
For Five Years after the Opening of the Hospital.			
1895	24	44	12
1896	31	45	12
1897	14	72	11
1898		55	21
1899	22	129	5
Totals... ...	99	345	61
Averages ...	20	69	12
During the last Six Years.			
1900	156	78	25
1901	184	43	9
1902	115	85	14
1903	49	40	5
1904	9	48	5
1905	14	91	5
Totals... ...	529	385	63
Averages ...	88	64	10·5

I am afraid that no satisfaction is to be obtained from a study of these tables. A correction for increase of population is so small that I prefer not to complicate matters by introducing it. Notifications of typhoid fever have been given because although persons suffering from this disease have not been removed for isolation it is the only one showing signs of a continued decrease.

In my last annual report to the Chelmsford rural district council I went still further into this matter and showed from a study of the cases of scarlet fever that where patients were removed from houses in which there were other susceptible persons practically as many were attacked as in those cases where the patients were not removed :—

A.

Number of houses containing other susceptible persons from which first notified case was removed to hospital	30
Number of susceptible persons in these houses	104
Number of persons attacked...	49

B.

Number of infected houses from which patients were not removed	13
Number of susceptible persons in these houses	45
Number of persons attacked...	22

This table shows that the average number of susceptible persons per house was the same in both cases and that 47 per cent. of the susceptible children were attacked in the families of those removed to hospital and 49 per cent. amongst those not removed, an advantage of only 2 per cent. in favour of hospital isolation.

As I am also asked for some particulars with reference to the experience at Romford, where a well-equipped hospital was opened in May, 1901, for the use of the urban and rural districts, I give the notifications for the six years prior to the opening of the hospital and for the four years subsequent to the opening. As the hospital was opened in the middle of 1901 that year is excluded.

Cases Notified during each Year in the Romford Urban and Rural Districts.

Prior to the Use of the Hospital.

Year.	Romford urban district.			Romford rural district.		
	Diphtheria.	Scarlet fever.	Typhoid fever.	Diphtheria.	Scarlet fever.	Typhoid fever.
1895	31	10	30	149	44	22
1896	66	42	21	93	95	17
1897	39	32	22	32	43	44
1898	23	22	18	39	41	37
1899	36	20	9	36	70	60
1900	21	5	7	36	67	26
Totals ...	216	131	107	385	360	206
Averages...	36	22	18	64	60	34
During the time of the Hospital being in Use.						
1902	37	43	14	34	40	29
1903	23	23	6	252	42	12
1904	46	29	4	179	146	12
1905	37	11	7	114	179	11
Totals ...	142	111	31	579	407	64
Averages...	36	28	8	145	102	16

These figures are somewhat startling and I do not see how it is possible to reconcile them with the theory that hospitals are invaluable for arresting the spread of scarlet fever and diphtheria. As there has been a somewhat considerable increase in the population in these districts I have calculated the proportion of cases per 10,000 population for each period, for the districts separately and for the combined districts.

Average Number of Cases per 10,000 Population Notified per Annum.

Romford Urban District.

—	Diphtheria.	Scarlet fever.	Typhoid fever.
Prior to use of hospital...	30	18	15
During use of hospital ...	25	21	6
Romford Rural District.			
Prior to use of hospital ...	36	33	20
During use of hospital ...	72	51	8
The Combined Districts.			
Prior to use of hospital ...	33	27	17
During use of hospital ...	52	38	7

In this case it is very probable that the diminution in the average of cases of typhoid fever is due to the removal of the patients to hospital, as a very large proportion of those notified are promptly removed.

The consideration of these and other statistics led me to make investigations with the object of ascertaining why

hospitals were failures so far as the prevention of the spread of scarlet fever and diphtheria is concerned, and I am now confident of the cause and it is so patent that one can only wonder that it had not been recognised before. The cause is the prevalence of a very large proportion of cases of so mild a type that they not only escape notification but escape recognition unless carefully sought for by a competent person. During the last few years I have with the aid of my assistants made very full investigations into several localised outbreaks and in practically every instance we have found many mild cases which have occurred and have been unrecognised, yet forming as it were the connecting links between the recognised cases. Moreover, it now seems very probable that persons in perfect health may harbour in their throats the organisms capable of causing scarlet fever or diphtheria and convey them to others more susceptible and so infect them. Assuming this to be the case the reason why the isolation of the notified cases fails to arrest the spread of infection is perfectly obvious and it is equally obvious that refinements in methods of treatment and of hospital administration can have but little effect. It is of course possible that these refinements may tend to prevent so-called "return" cases but such cases are but insignificant factors in the spread of infection. If, therefore, isolation hospitals have so little effect in arresting the spread of infection, are they of any value to the community or can any arguments be urged in favour of their maintenance?

There are two reasons why hospitals are advocated by medical officers of health and members of the medical profession, reasons which are rarely if ever publicly stated. 1. They save the medical officer of health a great deal of time and trouble. When a case has been removed and the house disinfected there is little more to do. If the patient is not removed the house requires frequent visiting to ascertain that all proper precautions are being taken and that the patient is not allowed to return to school or work until free from infection. This may mean that the case remains under supervision for six or eight weeks or more. 2. Medical men do not care to attend the poor when their children are suffering from infectious disorders. They cannot obtain adequate remuneration for their services, and naturally their other patients prefer that they should not be attending cases of scarlet fever and diphtheria. The danger of a medical man conveying infection may be very slight but no one can say that it is non-existent. The following more cogent arguments, however, can be advanced. 3. Many cases occur in overcrowded houses or in houses where no sort of isolation is possible, and where it is to the advantage both of the patient and of the public that the former be promptly removed. The greater the crowding of people in houses and the greater the crowding of houses on space, the greater the need for isolation hospitals. The less the overcrowding, the less need for hospitals. Prompt isolation of such cases at an early stage of infection may prevent epidemics. 4. Other cases occur in which the breadwinner would be precluded from following his occupation if the patient remained at home, with the resulting impoverishment of the family. No doubt in many cases it would be cheaper to pay wages than to remove the case, but the former is an illegal course, whilst the latter is legal. 5. Again, cases occur in business houses, at dairy farms, &c., and amongst servants. In some of these instances the removal of the patient is more to the advantage of the householder or to the patient than to the public; nevertheless it is an advantage which the ratepayer appreciates when the premises infected are in his occupation. 6. In a few cases removal is greatly to the benefit of the patient who, whether a ratepayer or not, forms a unit in the community. These cases are not numerous. My experience leads me to the conclusion that the majority of cases do better at home if they can have reasonable care and attention than they do in isolation hospitals where severe and mild types of disease and acute and convalescent cases must be treated in the same wards.

It will be seen, therefore, that notwithstanding the failure of hospitals to stamp out disease there is much to be said in favour of their maintenance, especially for populous localities. In thinly populated rural districts the need is much less urgent and would practically cease to exist were the housing accommodation ample. It is for this reason that in my last report to the Chelmsford rural district council I stated that I would rather see £1000 per annum spent in providing 200 labourers' cottages, each with three bedrooms, than in maintaining an isolation hospital, especially if two or three of these cottages were reserved for use in emergencies for the isolation of infectious cases. There can be no question that the provision of such a number of cottages in any rural district would abate most of, if not all, the overcrowding, would enable the labourers' families to lead cleaner and healthier lives, and would prevent the spread of infection far better than a hospital.

The question of hospital provision is one which must be considered in every district, and the answer in each case depends upon the special requirements of the district and the wishes of the ratepayers after they have been put in possession of all the facts. Where only a limited amount of money is available, as must always be the case when it has to be raised from the rates, the requirement which is most urgent, and the work which will be of the greatest benefit to the greatest number of the ratepayers, is that on which the money should be expended. In many districts it is probable that there are more urgent requirements than the provision of isolation hospitals.

THE MYSTERIOUS ILLNESS OF MARY QUEEN OF SCOTS.

BY EUGENE S. YONGE, M.D. EDIN.

IN the autumn of the year 1566, before the coils of political misfortune had begun to tighten around the ill-fated Queen of Scotland, she happened to fall sick at Jedburgh of a sudden and mysterious illness—a malady which pursued a most unusual course, which ended in apparent death, and was followed by preparations for the interment, and finally by the anti-climax of a recovery that was universally regarded as inexplicable and by a moiety as inexpedient. Although the illness is not conceded to be a major event in the life of a Queen whose career was so full of momentous episodes it nevertheless possesses distinct elements of historic and dramatic interest, and it has undoubtedly puzzled the speculative historian if we may judge from the references to the incident in the literature. Writers have discussed, *inter alia*, the nature of the disease from which the Royal patient was suffering, the cause of it—and under this heading we find such dissimilar suggestions as poison, the effluvia of marshes, hysteria, chagrin, indigestion, and ill-regulated love,—the inexplicable termination, and even the political consequences that would have ensued if the heroic measures adopted by Arnault, the Queen's physician, had failed to resuscitate her. The headlong Buchanan, in his "Detection of Mary Stuart," states his belief that the illness was brought about either by the Queen's excessive passion for Bothwell or "by some secret Providence of God." But the theory which has perhaps obtained most support is the one that ascribes the whole calamity to an attack of irritant poisoning maliciously induced.

"It is impossible," says one historian,[1] "to read the reports of the Jedburgh visit without coming to the conclusion that foul play was attempted on the Queen, and was all but successful. Her physicians asserted that certain symptoms were 'very suspicious,' conveying a pretty clear suggestion that the Queen was poisoned. ..... If she was poisoned, there can be no great difficulty in pointing to the source. The reference of Claude Nau to Moray shows how anxious Moray was to get the breath out of her body."

I do not think the theory of poisoning is effectively buttressed, even though the Queen's secretary, Claude Nau, evidently believed in it. For although he was in attendance on the Queen at the time of the illness and has transmitted a very full and detailed account[2] of the event—so detailed as to suggest that notes and memoranda were made at the time—he was not a skilled observer, and concluded that because the Queen was sick a great many times she was therefore suffering from the effects of poison. It is, of course, undeniable that this lethal agent was a recognised solvent of political difficulties; yet it never seems to have been a common instrument of murder in Scotland, even at a period when society estimated the value of a human life at a low computation.

There appears, indeed, to be an absence of proof that any such agent was employed or that any of the causes which

[1] Mary Queen of Scots, by Cowan. London, 1901.
[2] History of Mary Stuart, by Claude Nau. Edited by Stevenson, with the original French text. 1883.

have been cited were in operation. On the other hand, there seems to exist a considerable body of evidence bearing on the real cause of this historic illness and an explanation of the "mysterious" circumstances can be detected if this evidence be shaken through an appropriate sieve. In short, I may suggest here, from the very nature of the case, that the physician may not be *ultra vires* in attempting to assist the historian—provided always that the physician regard the historian as Apelles and discussed no more than his own particular shoe-latchet. This being conceded one may, in the first place, briefly review the circumstances which immediately preceded the illness and had some bearing upon it.

On Sept. 24th—a little over three weeks before the Queen developed the attack of shivering that ushered in her illness—she left Edinburgh to traverse the distance between the capital and the town of Jedburgh, in order to carry out a tour of assize and pacification on the border. The assize was fixed for Oct. 8th at Jedburgh. At the same period of time the Earl of Bothwell was already occupied in the "fortification of justice" on Mary's behalf in the district of Liddesdale, whither he had been ordered to proceed and to imprison all "notorious offenders" in his Castle of Hermitage pending their trial at the assize. At Borthwick or thereabouts the Queen's path was cut by a messenger bearing the news of the serious wounding of Lord Bothwell by one John Elliott of the Park. It appeared that Bothwell, having found it necessary, as a preliminary to incarcerating this and other "notorious offenders," to carry out the axiom subsequently applied by Mrs. Glasse specifically to hares, he had in the present instance become separated from his body-guard through the eagerness of pursuit and had nearly come to his death as the result of a collision, single-handed, with the outlaw. The account of Bothwell's fight with John Elliott resembles that of the death-grapple between Fitz-James and Rhoderick Dhu and is said to have suggested the description of the classic struggle to Sir Walter Scott. When Bothwell encountered the outlaw the Earl at first overcame him but admitted the vanquished one to quarter. Elliott asked his captor "whether he would save his life?" "If an assize will make you clean I shall be heartily content," replied the Earl, "but it behoves you to pass to the Queen's grace." It is evident that John Elliott had little faith in this process of purification and disregarding the fact that he had given his parole not to escape (the ethics of a border-thief would have been but elementary) he slipped from his horse and endeavoured to run away. Bothwell, perceiving his intention, fired a horse pistol at the retreating outlaw and wounded him in the thigh. The earl then alighted with intent to have retaken him but unluckily slipped over a *slough* and fell, whereupon, as Scott hath it:—

> "Like adder darting from his coil,
> Like wolf that dashes through the toil,
> Like mountain-cat who guards her young,"

the outlaw sprang upon his adversary and savagely dealt him three wounds—one in the hand, one in the body, and one in the head. After effecting this he took to flight, but not before he had received a dual stab in the breast from the Earl's hanger. Mortal thrusts they proved, for when Elliott had dragged himself a miserable mile and was attempting to ascend a hill, the awful leakage from some wounded artery caused his limbs to fail and "the stream of life" being exhausted he fell forward and died. In the meantime Bothwell's men had caught up to their master, whom they found lying unconscious on the heather, weltering in a veritable shambles and hardly encouraging the hope that the cart which was to convey him to Hermitage would reach the Castle with a living freight. Nevertheless, the Earl completely recovered and lived long enough to justify the ejaculation of Scott—"Happy had it been for Mary had the dagger of the moss-trooper struck more home!" There in his Castle of Hermitage he lay, trussed and bandaged; and even though Mary did not, immediately and on the moment, "fling away," as Buchanan asserts, "like a madwoman in the sharp time of winter," to visit her wounded officer, it is certain that she subsequently engaged in a fatiguing ride to Hermitage and back to Jedburgh, which in all probability was responsible for the precipitation of her illness.

It was on Wednesday (Oct. 16th) that Mary appears to have undertaken the long, cold journey on horseback that has been often described—from Jedburgh, through Bedrule and Hobkirk and by Windyhaugh Hill, through Stitchell and on to Hermitage, by miserable and bridgeless roads and in the face of fearful weather. On the return journey she narrowly escaped an accident, for in galloping at full speed across a swampy plain her palfrey sank up to the saddle girths in a treacherous morass, which is still called the "Queen's Mire" in memory of the event; and tradition has it that a lady's antique silver spur found near the spot during the last century was the actual *éperon* which was lost that night by the Royal horsewoman. The double journey, a distance of some 25 miles, was performed in a single stormy day, and the Queen arrived home chilled and wet and weary, and with the fever in her blood that was so soon to blaze forth. The house at Jedburgh in which Mary was lodged is, I believe, still habitable—a square, turreted building, strongly built, but roofed with thatch, and possessing a garden at the back which extended down to the banks of the river Jed, close to the picturesque old bridge. A spiral stone staircase led to the Royal apartments, and when Mary had dragged her weary limbs up the winding steps and was being attended to by her ladies there was a *soupçon* of strangeness in her manner and, quite contrary to her usual wont, she was querulous and irritable. Marie Livingstone, one of the four ladies (who each possessed the Christian name of "Marie") famous for their long association with the Queen and faithful attendance on her, tried to induce her to take food after her long journey, but she refused, saying that the mere sight of food made her feel sick. That night, although intensely tired, she slept never a moment, but turned restlessly in bed or lay and stared at the tapestry that hung in the dimly-lit chamber. These hangings are still in existence, though soiled and faded; they represent the meeting between Jacob and Esau; Rachael is standing by, holding her little son Joseph by the hand while the brothers are embracing. The figures are well delineated and the colours have been very fine; "royal" blue is the prevailing tint. In the early hours of the next day, Thursday, the enemy declared himself and the Queen was seized with an attack of shivering, which was followed by other similar attacks in rapid succession—the whole phenomenon presumably being the outward and visible sign of the onset of fever. Within a few hours all remnant of energy, all sense of the natural feeling of *bien-être* had fled, the skin became hot and dry, and there developed a terrible pain in the side—a "stitch" of monstrous proportions—which stabbed her each time she coughed or breathed or moved her restless body.[1]

If it may be permitted at this point to anticipate some of the evidence which is to be forthcoming one may hazard the conjecture that the disease which had now attacked the Queen was inflammation of the lungs—the peculiar and distressing pain in the side being probably evidence of an accompanying pleurisy. But Queen Mary had not yet run through the gamut of troubles that were to be hers that evil day, for towards evening another complication ensued, and took the form of vomiting of blood. This symptom continued for a considerable period and occurred, according to the statement of Claude Nau, more than 60 times, so that there is little wonder that, later, the poor Queen nearly became a passenger on the Stygian ferry. After a time, as the Royal patient was evidently very ill, her physicians—the "Medicinars," as Nau calls them—were summoned. One of them was a Frenchman, Arnault by name, and he, after a brief examination of the patient, declared that the spleen was the organ which was at fault; that the disease, in fact, was nothing more or less than the common malady known as an "attack of the spleen." The writer dissents from this diagnosis, but with all deference and with all respect for his mediæval colleague, who certainly saw and examined the patient, whereas he is bound to admit that he did not. Moreover, Arnault is described by contemporary writers as "ane perfyt man of his craft," and there is no doubt but that he stood high above his colleagues in the Queen's confidence and favour—a Saul among the faculty. One disagrees with him, for the obvious reason of course, that a "spleen attack," as understood in those days, is now known to have been a convenient stalking horse behind which ignorance too often crouched in concealment—a mere nonentity withal and a figment of the Galenical imagination.

It is true that the general appearance which the Royal patient presented—the hot, dry skin; the hurried, painful breathing; the rouging of the pale, beautiful face with a vivid splash of colour on either cheek—were noticed by the

[1] History of Mary Stuart, by Petit (Translated by Charles de Flandre). Edinburgh, 1873. Also Claude Nau, loc. cit., et alia.

physicians and were confessedly a little puzzling to them; but these signs revealed nothing more than the half-truth that the "spleen-attack" was complicated by "fever." Yet, apart from the fever, it was quite evident both to Arnault and to the other physicians that this was no ordinary attack. The vomiting of blood, for instance, was most unusual in "attacks of the spleen," and to the "medicinars" inexplicable, except on the supposition that poison had been administered, and some weird evidence (which the curious may discover in the literature) was brought forward in support of this hypothesis. Not only was the complication in question particularly distressing and exhausting but the great loss of blood which ensued became after a time a matter of grave danger and alarm and appears to have taken a notable share, as I have implied, in producing the appearance of death which was afterwards observed.

The next day (Friday, Oct. 18th) the symptoms continued unabated. The physicians had evidently lost their bearings and, tossed on the waves of uncertainty, they steered erratically between the Scylla of a "spleen attack" and the Charybdis of irritant poisoning. The mental condition[4] of the Royal patient was peculiar and variable and of little value as a guide to the doctors. Sometimes she talked and muttered for long periods together; at other times she would scream suddenly; at other times, again, she would lie in a semi-conscious condition, staring at the richly-embroidered hangings and speaking never a word. At such moments, doubtless, the toxins in her blood—assisted, perhaps, by that clever thaumaturgist pyrexia—would act as scene-shifters and would change the tapestried *mise-en-scène*, so that she would see Jacob and Esau unlocking their embrace and Joseph and Rachael coming near and "bowing themselves," or Leah and her children advancing and "bowing themselves," or perhaps a string of handmaidens and their children in an endless procession, until the poor brain was giddy with it all. But at intervals the Queen would completely recover her senses and be able to recognise those about her and recommend herself to their earnest prayers; indeed, according to Petit, she edified all those around her during these brief intervals of reason

On Saturday (Oct. 19th) the Queen's life was despaired of, "for assuredly," writes the Bishop of Ross, "her Majestie was so handled with great vehemence that all that was with her despaired of her convalescence." For the next three days (i.e., until Wednesday, Oct. 23rd) she remained very ill, but on Wednesday there was a decided rally. In a letter from the French Ambassador, M. de Croc, to the Archbishop of Glasgow, M. de Croc remarks that, in spite of the severe loss of blood and other unfavourable signs they had begun to entertain hopes of her recovery. But, alas! the "severe loss of blood," to which his Excellency makes but slight reference, was destined to play havoc with the unfortunate Queen who had already begun to give evidence that she was embarrassed by a double enemy—on the one hand, by an exhausting fever and on the other by the insurrection, the mutinous desertion, as it were, of the tissues of her own body. If we may believe the records which have been handed down, especially by Mary's chaplain, the Bishop of Ross, and by Claude Nau, her secretary, the Queen showed many of the effects which follow excessive haemorrhage. She became very restless; the sight failed and later the speech; she had attacks of swooning; so also were "all her Memberis Cauld, eene closit, Mouth fast, and Feit and Armis stiff and Cauld." Nau also reports that later the Queen fell into a severe convulsion in which the limbs and the face were greatly distorted. On Thursday (Oct. 24th) the Royal patient, fully recognising the extreme gravity of her condition, feeling that strength was ebbing and that the tenure of life was uncertain, decided to prepare herself for death, previously summoning the Lords of the Court for the purpose of declaring a final disposition of her affairs.

After a long and evidently exhausting interview with the Scottish nobles she caused the prayers of her Church to be read by the Bishop of Ross and listened with great attention and devotion until the religious exercises were interrupted by an alarming attack of faintness which was followed by loss of consciousness. For four hours the Queen continued in this condition, while the attendents, with infinite sollicitude, endeavoured to revive her by rubbing and drawing the limbs and by other methods. These efforts were rewarded by an amendment in the condition of the Royal patient, who recovered her senses and who showed, moreover, that for her, at least, Hope still lay *perdu* in Pandora's Box and had by no means been put to flight by these distressing accidents. She conjured her ladies to look well after her the following day, Friday, for she believed that if she could pass safely through that day she would not succumb to her malady. The improvement in her condition persisted until about six o'clock on the following morning (Friday, Oct. 25th), when a decided change for the worse occurred and the Queen, who, it is said, was in the act of repeating the Creed, suddenly turned her face to the pillow and lay white and still. The French physician approached to the bedside and placed his hand over the Queen's heart. His face, keenly scrutinised by those who were standing around, evidently betrayed his fear that the end had come and one of the attendants, stealing on tip-toe to the window, threw it open to let out the imprisoned soul.

The secretary, in his account of the scene, makes the statement that immediately the window was opened and while the physician was still watching the Queen, the Earl of Moray began to give evidence of great activity, laying hands on her silver plate and on her rings and issuing various orders in connexion with the funeral. Messengers were sent hither and thither on various errands and orders were despatched for the preparation of mourning. The discussion of the veracity or the reverse of this accusation of indecent haste which Nau has brought against Moray is, of course, outside my province. It is quite certain, however, that the majority of those present believed that the Queen was dead. One of the exceptions was Arnault the physician, who, in spite of the commotion, remained stubbornly at the bedside, gazing intently at the inanimate Queen and occasionally lifting one of her arms, corrugating his white eyebrows the while and evidently puzzled not a little. We do not know what recondite speculations, what forlorn hopes, were passing through the brain that lay behind the keen old face. It has been suggested that he recognised that there was still some vitality in the arm which he kept lifting. *Ex pede Herculem;* perhaps the vital spark was still glimmering in the poor, huddled body! Whatever his conjectures may have been, he suddenly determined to make a final effort to resuscitate the Queen and to the surprise of those who were present he began to bandage very tightly the great toes, the legs, and the arms. Then he poured a small quantity of wine into her mouth, which he found some difficulty in getting open, and repeated this procedure at intervals. The Queen did not at once respond to the treatment; but in the course of an hour or thereabouts she gave a deep sigh and speaking in a weak tremulous voice, she desired those around her to offer up their prayers. Then "hir Majestie gat an Gryt Swyting quhilk was halden in the Releif of the Seyknis, becaus it was on the nynt day, quhilk Commonlie is callit the Creisis of the Seyknis"[5] and, following that, a long, refreshing sleep, out of which she awoke in the dawn of convalescence. John Knox has succinctly described this critical period of her illness.

> "And within a few days ..... she took sickness in a most extreme manner, for she lay two hours long cold dead, as it were without breath, or any sign of life: at length she revived by reason they had bound small cords about her shackle bones, her knees, and great toes, and speaking very softly she desired the Lords to pray for her to God."[6]

> "But for that illness," says Petit, a fervent admirer of Mary, "historians might revel more freely in their hateful charges; in the presence of death the veil has been rent and truth shines pure and clear. ..... Had that been Mary's last moment, whatever government ruled during her son's minority, that one would have desolated Scotland; but then, unfortunate one, how many troubles should'st thou have escaped!"

The Queen's final recovery was uneventful, and during the succeeding ten days in which she remained at Jedburgh the long hours were occasionally beguiled by John Hume who performed on the lute, and by John Heron who played on the pipe and the whistle, for which services these worthies received 40*s.* and £4 respectively.

The explanation of the circumstances of Queen Mary's illness—assuming that they can be brought into the perspective of modern medicine—does not appear to offer any special difficulties, particularly in view of the clearness, the minuteness, and the agreement in essential details of the accounts which have been handed down. To briefly

[4] Petit: loc. cit. Also "Queen Mary at Jedburgh," by Small (Proceedings of the Society of Antiquaries of Scotland, 1880-81).

[5] Extract from a letter by John Leslie, Bishop of Ross (October, 1568), quoted by Small: loc. cit.

[6] History of the Reformation in Scotland, by John Knox. Edited by David Laing. Edinburgh, 1848.

summarise the circumstances, it may be said that from various causes, mental and physical, the Queen had evidently fallen into a bad state of general health and she offered herself as an easy target for the shafts of disease. The inflammation of the lungs was the primary trouble, the excessive hæmatemesis was a secondary one, and this complication, combined with the exhausting fever, apparently reduced the Queen to a state of intense prostration and collapse, which resembled, and was indeed not far removed from, the condition of death. If it should be objected that hæmatemesis is an unlikely complication to have occurred if the hypothesis that the primary trouble was pneumonia is correct, one might urge, in defence, that several distinguished observers have pointed out the frequency with which hæmorrhage from a gastric ulcer occurs secondarily in septic conditions such as pneumonia.[7] There are many references in the literature to Mary's health, or rather continued ill-health, during early womanhood. The troubles were nearly always gastric, but she appears to have suffered also from anæmia or chlorosis. Sir Nicholas Throckmorton, the English Ambassador at Paris, who saw Mary in 1559, when at the age of 17 she was already Queen of France, writes that "in myne opinion she looketh very ill, very pale and grene, and therewith all short breathed."[8] The Vicomte de Noailles, Spanish Ambassador to the Court of France at the same period, also reports that Queen Mary "looked very evil" at dinner "and was so weake, as even before all the presence that was there, she fell on swooning, and was in a very dangerous case, as she always is after a meale."[9] I have been unable to find any reference to a previous hæmatemesis, yet I fancy that the symptom was possibly a sign of the exacerbation of an old complaint.

Lastly, I do not venture to pass any judgment on the heroic measures adopted by Arnault, who was indeed currently believed to have saved the Queen's life. It may be that his "shade" is already sufficiently irritated by the criticism of his diagnosis; let us therefore throw a sop to the Cerberus of his professional reputation by saying that his procedure at the critical moment seems to indicate that he had already foreshadowed the idea afterwards advocated by Esmarch and so universally adopted.

THE HAMPSTEAD GENERAL HOSPITAL.

A MEETING of the Hampstead division of the British Medical Association took place on April 6th at the Hampstead Conservatoire to consider a large amount of business, the chief item on the agenda being the report of the executive committee on the management of the Hampstead Hospital. The meeting was by far the largest that has ever been held by the division, to whose members it was practically restricted, only two visitors being present.

The report, which was carried, was to the effect that in the Hampstead General Hospital an out-patient department was unnecessary, that the casualty department should be kept distinct from any other department, and that casualty patients, if not suitable for admission, should be seen once and thereon referred to private practitioners, provident dispensaries, or to the Poor-law; that there should be greater facilities for local practitioners to attend in-patients; that there should be a service limit and an age limit to appointments to the medical staff; and that the outside profession should be adequately represented on the hospital council. The motion for the adoption of the report was met by an amendment proposed by Dr. Lewis G. Glover, one of the medical staff of the hospital, which, though not strictly in order, was by the desire of the meeting allowed to stand.

The amendment was to the effect that the meeting cordially approved of the means adopted at the Hampstead General Hospital both to prevent abuse and for facilitating the use of the hospital by medical practitioners not upon the staff. After a long debate the amendment was lost by a very large majority. The report of the committee was then discussed clause by clause and each clause was put and carried separately. The one on out-patients was carried by 31 to 7 and the others by similar majorities, visitors having been requested to abstain from voting. The facilities suggested to be granted to practitioners not on the staff included the throwing open to their patients of a much larger proportion of beds than at present, only a small number of pay beds and no free beds being at present open to patients remaining under their treatment. Equality of treatment with the staff on all matters connected with these beds was likewise asked for. The principle of representation of the local profession upon the governing body of the hospital was agreed to but the exact method was not discussed.

The proposal to replace the present acting staff of general practitioners by one of consultants met with severe criticism, but owing to the lateness of the hour (11 P.M.) no actual motion dealing with this subject was proposed. The executive committee of the division was given power to invite the local profession to a conference on the question of the management of the hospital and to approach interested public bodies on the subject.

MEDICINE AND THE LAW.

Medical Examination of Prisoners for Purposes of Evidence.

CIRCUMSTANCES have recently brought the medical examination of prisoners for purposes of evidence into some prominence and it is well that medical men should recognise what is the legal position. No man can be called upon to give evidence against himself for the purpose of substantiating a charge made against him. Consequently the law will not call upon a person accused of a criminal offence to submit himself to a personal medical examination to be afterwards used against him as evidence in support of a criminal charge. The class of cases in which medical examinations would usually be resorted to are such as concealment of birth and others in which the previous physical condition of the accused is a material element, and in all such justices of the peace, gaolers, constables, and medical men should be made aware that there exists no law by which an order can be made or legally carried out for the purpose of enabling the medical man to make a personal medical investigation which is afterwards to be made use of to support a charge against the person accused. Of course there can be no objection to the person charged voluntarily submitting to such an examination, and there are circumstances in which the fact that he or she offered to undergo such an ordeal as an answer to the accusation might receive a favourable construction, but whenever that is so the parties concerned in the examination must have it most distinctly understood that it is with the free will and at the wish of the accused that the examination takes place and that no pressure of any kind, by threat, by promise, or otherwise, has been used in order to bring about such assent. As justices of the peace are entirely dependent for their powers on a special authority conferred on them and regulated by statute, so any such authority expressly given to them cannot be enlarged by inference, and as there exists no statutable authority enabling justices to order a person suspected or accused of an offence to undergo a personal medical examination, no legal order can be made; and, moreover, as all proceedings under a valid authority created by statute must be conducted strictly in conformity with the regulations prescribed by the special law in each instance from which all their force is derived, it follows that when no such authority exists an order of justices is altogether invalid and can in no way limit the responsibility of a person assuming to act under it. The case of Agnem *v.* Jobson and others (13 C.C.C. 625) is one in which a justice of the peace was held liable in an action for improperly making an order for the examination of a prisoner by a medical man. Between May and November, 1875, the plaintiff, Annie Agnem, a girl 13 years of age, was delivered of an illegitimate child whilst she was living with her parents at Crook; in November they removed, and the empty house was being cleaned for the new tenant when the body of an infant was found under the flagstone in the pantry where it had evidently been for some time. Suspicion pointed to the plaintiff, Agnem, as the mother of the child, and on Nov. 15th two policemen went to the house where she was then living and put questions to her with respect to the child; she replied that she knew nothing about it and that it was not hers. Further inquiries were made and on Nov. 26th she was apprehended under a warrant

[7] Quoted Taylor's Practice of Medicine. London, 1901. Sixth edition, p. 643.

[8] Forbes, vol. i., May 24th, 1559.

[9] Quoted Hume: "Love Affairs of Mary Queen of Scots," London, 1903.

on a charge of concealment of birth and taken to the police station and there examined by Dr. McKay, at the instance of the police but against her own wishes. The first examination, however, did not appear to satisfy the medical man, who, being doubtful how far he was justified in acting under the authority of the police, set them in motion to procure a written order from a magistrate, which was at once granted by the defendant, Mr. Jobson, on their assurance that the order was a usual and proper one. Armed with this order Dr. McKay, accompanied by Mr. Allan, a surgeon, went to the police station on the following day and although Agnem assured them that she had made and signed a confession to the police that the child was hers and that there was no occasion for a second examination he insisted on examining her for the purpose of ascertaining whether or not she had been recently delivered of a child and she was tried at the assizes for concealment of the birth of the child, the medical men giving their evidence as to the examinations, and she was convicted. An action was then brought against Mr. Jobson, the magistrate, Dr. McKay, Mr. Allan, and Police-Inspector Banks for two assaults committed on Agnem by forcing her to undergo the examinations. Mr. Jobson pleaded not guilty by Statute 11 & 12 Vict., c. 44, s. 10. Dr. McKay and Mr. Allan denied the assault and pleaded leave and licence and Inspector Banks pleaded not guilty by statute. The case against Inspector Banks was abandoned and it was contended on behalf of Mr. Jobson, the magistrate, that he was entitled to notice of action, but the judge ruled that he was not entitled to notice. Counsel for the plaintiff then elected to rely on the second examination of the plaintiff and there being no evidence for the defence the judge said that unless the jury were convinced that the plaintiff gave her consent to the examination the medical men had no right to make it. He said that there was a great difference between consenting and submitting and that if the girl consented, thinking they had the power to compel her to submit, that would do. With respect to Mr. Jobson it was then contended that he had made an order in the interest of justice, as he thought, although he was mistaken as to the law. Mr. Justice Lopes left it to the jury to say whether the plaintiff had consented to the examination on the second occasion; if not it was an assault, illegal and unjustifiable, and the plaintiff would be entitled to the verdict, but if she consented they must find for the defendants. If she consented, even though it was under the impression that the persons who were about to examine her had the power to make her submit, it would be an answer to the case. The order given by the magistrate was a foolish one and the defendants had acted extremely foolishly, and the damages might be such as to show in unequivocal terms that no magistrate, or policeman, or medical man could infringe upon the rights of any person. A verdict was given for the plaintiff for £50. It is clear that a man cannot be freed from the legal consequences of an illegal act, although he solemnly believes at the time that he is acting legally and within his duty; in this case the magistrate had no right, either at common law or by statute, to do what he did, and the fact that he acted in the *bonâ-fide* belief that he possessed such an authority could not justify him. In judicial proceedings the judge and jury can seldom act entirely upon evidence afforded by their own senses and it occasionally happens that other means of information must be resorted to; for instance, when a female upon a capital conviction alleges, or the court has otherwise reason to suppose, that she is pregnant, the law is that a jury of 12 matrons shall be impanelled and sworn to try the fact, and in case they shall find in the affirmative the court is to respite the offender until she shall be delivered of a child, or it is no longer possible in the course of nature that she should be so delivered; but this is a totally different thing. In such a case the woman has been convicted of a capital offence and she alleges a reason why the extreme penalty of the law should not be carried out and the jury of matrons are sworn to try that issue. When such a plea is pleaded the jury of matrons are empowered to decide the issue upon the examination of the person of the prisoner and the matrons may, in addition to personal inspection, hear the evidence of a surgeon, but in that case he must be examined as a witness in court. In R. *v.* Wycherley (8 C. & P. 262) a jury of matrons impanelled to inquire whether the prisoner was pregnant sent a message into court that they wished to have the assistance of a medical man; they were desired to come into court, and having publicly repeated their wish Baron Gurney directed a surgeon and accoucheur who was present to go and examine the prisoner. This was done and after his return into court, after having been sworn, he stated that he saw no reason to believe that the prisoner was quick with child. The jury of matrons again retired, and on their return into court they found that the prisoner was not in the state she alleged. In conclusion, it may be observed that whenever there has been a personal examination voluntarily submitted to the privilege which may be claimed by a legal professional adviser in respect of any matter communicated to him by his client does not extend to medical men; they are bound to disclose any information which, while acting in their professional character, they have confidentially acquired.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

ELECTION OF PRESIDENT.

AN EXTRAORDINARY COMITIA was held on April 9th, Sir RICHARD DOUGLAS POWELL, Bart., K.C.V.O., the President, being in the chair.

The PRESIDENT announced that a communication had been received from the council of the Melbourne Library inviting the Harveian Librarian (Dr. J. F. Payne) to be present at the ceremony in connexion with the fiftieth anniversary of the opening of the public library of Victoria and the fiftieth anniversary of the foundation of the University of Melbourne. The Harveian Librarian being unable to avail himself of the invitation the President had nominated Dr. W. B. Headley of Melbourne, a Fellow of the College, to represent the College on that occasion.

The PRESIDENT also announced that he had nominated Sir G. H. Philipson as the second delegate to represent the College at the Congress of the Royal Sanitary Institute to be held at Bristol.

The PRESIDENT then delivered the usual annual address, in the course of which he referred to the honours and distinctions which had been conferred by His Majesty the King on certain Fellows, Members, and Licentiates of the College during the past year and to the awards, medals, prizes, and scholarships conferred or granted by the College. He also mentioned the lectures which had been delivered before the College. Some of the work accomplished by the College was then reviewed and reference was made to the important committees appointed during the year, especial mention being made of the course adopted in connexion with examinations to be held in tropical medicine which had received the approval of the Colonial Office. Attention was also drawn to the fact that for the first time delegates had been appointed to represent the British Government at international congresses connected with the science of medicine. The President then read short obituary notices of those Fellows who had died during the year: Dr. William Ogle (Derby), Dr. John William Ogle, Sir John Scott Burdon-Sanderson, Dr. Thomas Albert Carter, Sir Joseph Ewart, Dr. Henry Matthews Tuckwell, Dr. Thomas Edmondston Charles, and Dr. Lionel Smith Beale.

Dr. F. W. PAVY proposed that a vote of thanks should be accorded to Sir Richard Douglas Powell for his interesting address and for the services which he had rendered to the College during his year of office and added a request that the address might be printed.

Sir RICHARD DOUGLAS POWELL returned thanks to the College and acceded to the request to have the address printed. He then vacated the chair.

The REGISTRAR (Dr. E. LIVEING) read the regulations which govern the election of President and on a ballot being taken Sir Richard Douglas Powell was by a very large majority re-elected as President for the ensuing year.

The charge was delivered by the SENIOR CENSOR (Dr. PAYNE) and the PRESIDENT pledged his faith to the College.

Sir RICHARD DOUGLAS POWELL then thanked the College for the honour accorded to him in so cordially re-electing him as President.

The following communications were received: (1) From Mr. Cowell, reporting proceedings of the Council of the Royal College of Surgeons of England on Feb. 8th. 2. From the clerk of the Privy Council, announcing the appointment of Sir Dyce Duckworth to represent His Majesty's Government at the Lisbon Congress. 3. From Mr. F. Mill Pellatt, asking leave to have a copy made of the portrait of Dr. Thomas Pellett in possession of the College; the request was

granted. 4. From Mr. Thurston Peter, asking leave to reproduce for publication the portrait of Dr. John Freind lent by the College to the National Portrait Gallery. The request was granted. 5. From Mr. Edgar Williams, offering for the acceptance of the College a photographic copy of a profile drawing of his father, the late Dr. Robert Williams, F.R.C.P. The thanks of the College were ordered to be conveyed to the donor.

A report was received, dated Feb. 12th, from the committee appointed to prepare a revised edition of the College by-laws and the additions and alterations proposed were enacted for the first time.

A report, dated March 19th, was received and adopted from the Committee of Management. The report recommended that the following London County Council asylums should be added to the list of lunatic asylums recognised by the Examining Board in England for clinical demonstrations in lunacy—viz., Bexley Asylum, Horton Asylum, and Manor Asylum. The committee also reported that on the application of the chairman of the executive committee of the British Red Cross Society (Sir Frederick Treves) it had granted the use of the Examination Hall, rent free, for one week in June, 1907, for the International Congress of the Red Cross Societies.

Looking Back.

FROM

THE LANCET, *SATURDAY*, April 12th, 1828.

CANTERBURY TALES.

Conjectures on the Process, by which the Archbishop of Canterbury creates a Doctor of Medicine; addressed to Sir HENRY HALFORD, *President of the Royal College of Physicians*

SIR,—The high professional rank, and distinguished situation you so deservedly hold, induce me to address you on the present occasion. Since your elevation to the chair, you have exhibited a very pure specimen of classical composition; your urbanity has been proverbial, and your conduct towards your professional brethren has borne the character of dignified moderation.

To your learning, perspicuous examinations, and mild authority, we have hitherto trusted for the creation of our metropolitan physicians; and in these deliberations concerning the fitness of a candidate, you have in the body of censors the generous assistance of a council. But with surprise I find you have a competitor, an iatropoietic rival, a man of a different cloth; a spiritual nosologist, who, by some mysterious afflatus, can instantaneously blast a man-midwife into a doctor.

Are these metamorphoses, which the wand of Harlequin would have disdained, to be legitimately incorporated with the *conversiones* of an ecclesiastical primate?

Having commenced with this utero-astrictus, may not the same prelate extend the like discrimination and favour to others; and proceed to dub his tooth-drawer, his chiropodist, or the "callidus aliptes," that shampoos his Grace? No class of men understand better the value of learning than the clergy; it is the great instrument by which they have been advanced to temporal distinctions, and to their contingent emoluments. The whole of the existing bench of bishops have been educated at Oxford or Cambridge, and they feel reluctant in ordaining such as present themselves from other universities. The College of Physicians insist on a residence at certain universities, and a previous diploma, before they will proceed to the examination of a candidate. Why then should the mitre, in defiance of these wholesome establishments, interpose an unrepealed abuse, an obsolete remnant of monkish fraud and imposture, to sanction a probable depredation on the health of his Majesty's loyal subjects? Under the act of toleration, any miserable fanatic or canting hypocrite, may purchase at the quarter-sessions, for his half-crown, the title of a licensed teacher, and infest the highways and hedges, or *the ruins of a fallen theatre*, with his rant and denunciations; but the archbishop does not countenance these extravagancies and profanations of his own craft.

Why then should his Grace degrade an honourable profession, by tearing down the fences that oppose an entrance to the unqualified? Why should the public health be endangered by the introduction of such as the law has disqualified? The Archbishop is fully aware that his formidable and deleterious power cannot constitute a surgeon—he is unable to appoint any of his retainers a member of the Company of Apothecaries—he is incapable even in the city of Canterbury, in the soil of his own domination, of setting up a barber, with the prurient emblems of the long pole, and the phlebotomising garnish of the red rag. Notwithstanding these incapacities, the Right Reverend feels himself competent, *ex nihilo*, to create a physician; a signal proof that, in archiepiscopal logic, the major has no pretensions to include the minor. But, Sir, after a candid examination, having obtained your fiat, and that of your colleagues for the exercise of the profession of medicine, I am particularly anxious to learn the ceremony that was employed, to render this professor of the tactus eruditus—this special bail for the security of the perineum—this eaves-dropper of the os tincæ, competent to prescribe in the wide range of human infirmities. Did his Grace's Chaplain plumb his depth in Latin? Did he sound him in Greek? or did he gauge his orthodoxy? What was the nature of the holy diploma he obtained? Did it commence after this fashion? Sciant omnes, *me*, Archiepiscopum Cantuariensem, medicinæ ignarum, nunquam examinasse, sed admisisse Doctorem Sloppum ad facultatem medicinæ exercendam, quamdiu vixerit, per totam Angliam. Amen. Or, has he no parchment and extensive stamp to exhibit? In the regular order of human events, I ought next to inquire, what species of doctor he has been dubbed; for, unhappily, in the natural history of physicians, there are two distinct orders, the Socii and Permissi. The former are said to constitute the College—they enjoy a "local habitation and a name"—they issue their mandates for the nomenclature and preparation of all medicines, as inclination may lead, or fancy dictate—they become the arbiters of human intellect, and levy a heavy taxation on the keepers of these metaphysical retreats. As the Pope dispenses his indulgences, they sell their licenses; which they partly consume in costly viands, and in the choicest products of the vintage. O, fortunati nimium! Contrasted with these dignified and pampered Benedictines, is the famished order of the Permissi:—a houseless and vagrant community; supposed, as Ben Jonson said of Shakespeare, "to be of small Latin and less Greek," and which, had he lived in our time, he would have said of his namesake, Jemmy de Fasciculis, of pedestrian habits, and in the pitiless pelting of the storm, only protected by the shelter of an umbrella. From imperious necessity this tribe is compelled to industrious exertions, and obliged to follow the antiphlogistic regimen they prescribe for their patients:—and numbers may be daily observed in rusty black, and old spectacles, foraging in lanes, or gleaning the aliquot parts of a guinea, in obscure courts and in blind allies. I was about to inquire to which of these orders the ecclesiastical prelate has appointed his minion; but I have learned with regret, that the extemporaneous formula of his Grace, constitutes him a Socius, in plain English, a Fellow of the College. This is, at least, a proof of the Archbishop's taste.

"Non nisi delecta pascitur ille fera."

Thus, Sir, although the Right Reverend cannot compound a Permissus, he may manufacture a Fellow, and amalgamate him with the College, ut in unum coëant, according to the chemistry of Athanasius; and although his foot has never sullied the classic ground of Oxford or of Cambridge, future candidates may be rejected by the censorial imbecility of this peeler of the placenta.

I wish you much joy of your new acquaintance,

And am, Sir,

With every sentiment of respect,

PETER PERMISSUS.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on April 5th, Mr. JOHN TWEEDY, the President, being in the chair.

Two diplomas of Membership and two Licences in Dental Surgery were issued to successful candidates.

The best thanks of the Council were given to Mr. N. C. Macnamara for the valuable assistance rendered by him in arranging the collection of Indian skulls presented by

Lieutenant-Colonel Sir Richard Havelock Charles, K.C.V.O., I.M.S.

It was resolved to lend to the British Dental Association, for exhibition at its meeting at the Examination Hall in May, the specimens asked for, with the exception of the Hunterian specimens, as the Council has not authority to allow Hunterian specimens to be removed from the College premises.

It was resolved that the alterations in the electric light installation recommended by Dr. J. A. Fleming, F.R.S., should be carried out under his supervision.

The Council awarded the Jacksonian prize to the author of the dissertation on the Pathology and Treatment of Deformities of the Long Bones due to Diseases occurring During and After Adolescence, bearing the motto "Ab uno disce omnes." The envelope bearing this motto was opened and the PRESIDENT declared that the name therein was that of Mr. Reginald Cheyne Elmslie and it was resolved to request his attendance on May 10th to receive the Jacksonian prize.

It was resolved that the subject of the Jacksonian prize for the year 1907 should be the Operative Surgery of the Heart and Lungs, including the Pericardium and the Pleura.

In accordance with the recommendation of the committee the Walker prize of £100 was awarded to Professor Carl O. Jensen of Copenhagen.

The following is the committee's report:—

After receiving valuable advice and assistance from eminent American, Belgian, Danish, French, German, Italian, Swedish, Swiss, and British surgeons and pathologists regarding the work carried out in their respective countries, and after making careful examination of papers dealing with the pathology and treatment of cancer published in various languages during the last five years, it became evident that in any report to be presented to the Council much important work could not be considered, because (1) it had not been done within the prescribed time limit; (2) it had no direct bearing on the treatment of cancer; (3) it was still being pursued and the prize could scarcely be awarded to it at this stage of its progress; although it will fall under the consideration of the Council when the Walker prize is next awarded.

The committee are of opinion that Professor Carl O. Jensen, of Copenhagen, should receive the prize on this occasion. His work is described in a letter from Professor Salomonsen of the State Serum Institute of Copenhagen, and we cannot do better than cite this.

1. The inoculation of cancer from animal to animal had been made in comparatively few cases and therefore afforded no decisive material for the study of cancer. Professor Jensen first succeeded in discovering a tumour in the mouse which made the experimental investigation of cancer on a large scale possible.

2. Professor Jensen first carried out a large series of inoculations through 35 generations, comprehending about 1000 mice, and thus gave the impulse to certain experimental investigations which are now being carried out in many laboratories in different parts of the world.

3. He thus made it possible to investigate, and was himself the first person to investigate systematically, the effect of different factors (heat, light, chemical agents, radium, &c.) on these cancer cells.

4. He has further demonstrated the possibility of producing an anti-cancer serum for mice by the injection of the crushed tumour into rabbits. The serum of rabbits which have been thus prepared has been injected into mice suffering from cancer, with the result that the cancer tumours in many of them have disappeared absolutely and permanently.

In proposing Professor Jensen to the Council as a fitting recipient of the Walker prize, we have been influenced not merely by the actual work which he has himself done in investigating the nature of cancer and the effect of treatment upon it, but also by the extent to which he has opened up a field of research to those engaged in the study of cancer on certain lines, enabling them to carry out their investigations over longer periods of time and under better and more determined conditions than have up to the present time been possible.

The committee therefore recommend to the Council that the Walker prize of £100 be awarded to Carl O. Jensen, professor of pathology in the Veterinary School at Copenhagen.

It was resolved to invite Professor Jensen to visit England and to give the College the honour of his company at dinner on May 18th, when the prize would be presented to him personally.

The John Tomes prize was not awarded.

The Cartwright prize was not awarded. It was resolved to increase the honorarium to be presented with the Cartwright medal to £70.

It was resolved that "The Prevention of Dental Caries" should be the subject for the Cartwright prize for the period 1906 to 1910.

It was resolved to confer the Honorary Fellowship of the College on Dr. Just Lucas-Championnière, surgeon to the Hôtel Dieu, Paris.

It was resolved that the Honorary Medal of the College should be awarded to Lieutenant-Colonel Sir Richard Havelock Charles, K.C.V.O., I.M.S., in recognition of his gift of anthropological specimens to the museum.

Mr. Walter Burford Johnson was appointed first Begley student in pursuance with the report of the examiners in anatomy and physiology and he was requested to attend the ordinary meeting of the Council on May 10th to receive the first payment in respect of his studentship, together with a document declaratory of its award and to sign the Roll of Begley Students.

Director-General Herbert Mackay Ellis, R.N., and Surgeon-General Arthur Mudge Branfoot, C.I.E., I.M.S., were elected Fellows of the College.

A letter was read from the Royal Sanitary Institute calling attention to an application of the Institute of Hygiene to the Board of Trade for a licence to hold examinations and to grant certificates of competency in hygienic knowledge. The Council resolved to direct that a letter should be written to the Board of Trade suggesting that if the above application be granted the same restrictions should be e ˝ ced as in the memorandum of association of the Royal Sanitary Institute.

Mr. Edmund Owen, Vice-President, was appointed a representative of the College to take part in the celebration next September of the quatercentenary of the University of Aberdeen.

Mr. Owen was also appointed a representative of the College on the general organising committee of the Second International Congress on School Hygiene to be held in London in August, 1907.

THE REGISTERED MIDWIFE AND THE MEDICAL PRACTITIONER'S FEES.

A MEETING of the Central Midwives Board was held on April 10th at 6, Suffolk-street, Pall Mall, London, Dr. F. H. CHAMPNEYS being in the chair. In considering the revision of its rules under the Act preparatory to sending them in to the Privy Council for approval the Board discussed the following letter from the Privy Council to the Board:—

Privy Council Office, 5th April, 1906.

SIR,—Referring to the payment of legally qualified medical practitioners when called in by midwives in difficult cases, I am directed by the Lord President of the Council to transmit to you to be laid before the Central Midwives Board the accompanying copy of a letter from the Local Government Board on the subject, and to state that it appears to his lordship that the payment in the case of persons who are fit subjects for medical relief is a matter of arrangement and presents no special difficulty, but that there are a considerable number of cases where the persons who are willing to pay for a midwife refuse to incur further expense and the position of the midwife under Rule E 17 becomes one of grave perplexity. His lordship is of opinion that Rule E 17, being inconsistent with Rule 6, the difficulty might be solved by an amendment of Rule E 17 by substituting for the word "decline" in the third line the words "explain that she is not qualified." Further, his lordship considers that a midwife should be required to intimate when she undertakes a case that a necessity to send for a medical practitioner may arise at any moment.

I am, Sir, your obedient servant,
A. W. FITZROY.

The letter from the Local Government Board referred to in the above communication was also read:—

Local Government Board, Whitehall, S.W., 2nd April, 1906.

SIR,—I am directed by the Local Government Board to state that they have had under consideration the question of the payment of medical practitioners called in by midwives under Rule E 17 of the rules of the Central Midwives Board in difficult cases. It appears to the Board that at present there is no legal provision under which the payment of the medical man called in by a midwife can be guaranteed. In the cases of poor people entitled to receive medical relief at the hands of the guardians provision for the attendance, if necessary, of the district medical officer might be made beforehand by application to the relieving officer for an order. The Board are of opinion that in any such case, even if an order had not been previously obtained, and although some medical man other than the district medical officer were called in, it would be competent to the guardians if they thought proper to pay for the medical assistance under the provisions of Section 2 of the Poor-law Amendment Act, 1844. The Board are unable to concur in the suggestion that the notice of necessity for medical help issued by a midwife should have the same legal effect as an order by a relieving officer to the district medical officer. The Board consider that there are grave objections to conferring upon midwives powers to grant relief either absolutely or on loan. Further, with regard to Section 133 of the Public Health Act, 1875, although it seems to them that the provisions of that section might possibly be available if a town council or other local authority for the execution of that Act are willing to pay for the medical assistance required, the Board are of opinion that it is not desirable as a general rule that payments to medical men in such cases should be made under this section. Apart from the question of the intention of the legislature in framing this enactment it seems to the Board that any payment made by a public authority to a medical man called in by a midwife would in fact be in the nature of relief to the poor, and that from every point of view it is better that such relief at the expense of the rates should only be administered by the authority empowered by law to do so—viz., the guardians of the poor.

I am, Sir, your obedient servant,
NOEL T. KERSHAW, Assistant Sec.

The Central Midwives Board decided that the following

revised rule should be submitted to the Privy Council for approval:—

In all cases of abortion, of illness of the patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in, a midwife must explain that the case is one in which she must advise that a registered medical practitioner be sent for, and must hand to the husband or the nearest relative or friend present the form of sending for medical help properly filled up and signed by her in order that this may be immediately forwarded to the medical practitioner. If for any reason the services of a registered medical practitioner be not available the midwife must, if the case be one of emergency, remain with the patient and do her best for her until the registered medical practitioner arrives, or until the emergency is over. After having complied with the rule as to the summoning of medical assistance, the midwife will not incur any legal liability by remaining on duty and doing her best for her patient.

The agenda paper contained a notice of a motion relating to illiterate midwives to be moved by Sir William J. Sinclair and seconded by Dr. J. Ward Cousins that a new rule in the following terms be inserted in the rules:—

No one shall be permitted to begin the course of instruction, either theoretical or practical, until she has produced evidence satisfactory to the Central Midwives Board that she has received sufficient elementary education to enable her to read a text-book and take notes of cases. But this rule shall not apply to pupils who have received training in general nursing for at least one year.

In the unavoidable absence of Sir William Sinclair and Dr. Ward Cousins, Mr. H. G. FORDHAM observed that he was in sympathy with the principle but not with the way in which it was worded. He moved that the instructor who certifies a candidate as having attended a course of instruction should do so in the following terms:—

I certify that ——— (to whom this certificate refers) has attended to my satisfaction a course of instruction in the subjects enumerated in Rule D 4, extending over a period of not less than three months and consisting of not less than 15 lectures and has shown that she possesses sufficient elementary education to enable her to read and to take notes of cases.

This was seconded by Dr. W. R. DAKIN and on being put to the vote was carried with the casting vote of the chairman to be submitted to the Privy Council for approval.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons: H. H. Gill to the *President*, for three months' study at Dreadnought Hospital, Greenwich; J. H. Pead to the *President*, for three months' study at St. Bartholomew's Hospital; and W. S. H. Sequeira to the *Charybdis*. Surgeons: A. G. Eastment to the *Thetis*; and M. T. Male to the *Russell*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel J. M. Irwin, Staff Officer to Surgeon-General W. H. McNamara, C.B., C.M.G., joins the London District. Captain P. S. O'Reilly is posted to the Cambridge Hospital at Aldershot for duty and Lieutenant V. H. Symons is posted to Bordon Campfor duty.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Lieutenant Francis E. Fremantle, Herts Imperial Yeomanry, to be Surgeon-Captain (dated April 7th, 1906).

VOLUNTEER CORPS.

Royal Engineers (Volunteers): 2nd (Leeds) Yorkshire (West Riding): Surgeon-Lieutenant J. Holmes to be Surgeon-Captain (dated April 7th, 1906).

Rifle: 1st Dumbartonshire Volunteer Rifle Corps: John Allan to be Surgeon-Lieutenant (dated April 7th, 1906).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command: Glasgow Companies: Robert Buchanan Carslaw to be Lieutenant (dated April 7th, 1906); Lieutenant R. B. Carslaw is appointed Transport Officer (Dated April 7th, 1906).

ALLOWANCE FOR ADDITIONAL EQUIPMENT OF HOSPITAL WARDS.

By a Royal Warrant published in the Army Orders for April, it is provided that an initial allowance not exceeding 5*s.* per bed will be granted to each new or re-appropriated hospital, nursed by Queen Alexandra's Imperial Military Nursing Service, in which the number of beds forming the approved accommodation is not less than 100. A similar initial allowance will be granted for each bed added by War Office authority to existing hospitals nursed by Queen Alexandra's Imperial Military Nursing Service in which the total approved accommodation is not less than 100 beds. A subsequent allowance for maintenance and additional purchases, not exceeding 1*s.* per bed per annum, will be granted to all hospitals nursed by Queen Alexandra's Imperial Military Service in which the number of beds forming the approved accommodation is not less than 100. These allowances will not be issued in cash but will be expended in payment of bills incurred by medical officers in charge of hospitals in the purchase of: (*a*) articles of equipment (additional to those allowed by the approved schedules of hospital equipment) of a type calculated to afford increased comfort to the sick; and (*b*) small useful or decorative articles of the class which tend to improve the appearance of hospital wards and generally to brighten military hospital surroundings.

OUR ARMY STRENGTH.

The annual general return of the British Army for 1905, which has been recently issued by the Army Council, states that the regular forces in 1905 were 13,903 short of establishment numbers and that the strength of all forces was 155,752 deficient. The distribution of the army was 129,930 at home, 78,061 in India, 63,165 in the Colonies, and 977 in Crete. 100,000 men were serving who had not more than three years' service. There has been a material diminution in the number of recruits obtained during the past year, compared with the preceding year—35,351 against 41,279. These results are far from satisfactory considering how much has been done of late years to increase the pay and to improve the position of the soldier. It has to be borne in mind, however, that the year has been an exceptional one and that the depletion of the ranks of the infantry, for example, has been mainly due to the unusually large number of men passing into the Reserve. The number of medical rejections is still very considerable but there is, on the whole, an improvement in the class, quality, and educational standard of the recruits enlisted. There are, we think, several directions, some of which we have already indicated from time to time, in which our present system of recruiting might be amended with advantage in view of popularising the army but the subject does not admit of being discussed in our columns in any detail and is not a purely medical one.

VITAL STATISTICS.

VITAL STATISTICS OF LONDON DURING MARCH, 1906.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 5·7 per 1000 of the population, estimated at 4,721,217 persons in the middle of the year. In the three preceding months the rates had been 6·7, 6·7, and 6·4 per 1000 respectively. The lowest rates last month were recorded in Paddington, Kensington, St. Marylebone, Hampstead, Stoke Newington, and Holborn; and the highest rates in Finsbury, Bermondsey, Deptford, Greenwich, and Woolwich. Seven cases of small-pox were notified last month against one and six in the two preceding months; of these seven cases five belonged to Hackney, and one each to Stepney and Deptford. The prevalence of scarlet fever last month was considerably below that in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Finsbury, the City of London, Stepney, Southwark, Bermondsey, and Deptford. The Metropolitan Asylums hospitals contained 2353 scarlet fever patients at the end of last month, against 3410, 2866, and 2580 at the end of the three preceding months; the weekly admissions averaged 238, against 318, 296, and 271 in the three preceding months. Diphtheria was slightly less prevalent than it had been in the preceding month; the greatest proportional prevalence of this disease occurred in Hammersmith, Chelsea, Shoreditch, Bermondsey, Wandsworth, Greenwich, and Woolwich. The number of diphtheria patients under treatment in the Metropolitan Asylums hospitals, which had been 701, 867, and 926 at the end of the three preceding months, had fallen again to 924 at the end of last month; the weekly admissions averaged 111, against 101, 121, and 116 in the three preceding months. The prevalence of enteric fever

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING MARCH, 1906.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1905.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of Infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,721,217	7	1071	568	2	87	—	28	315	—	2078	5·7	—	265	29	56	158	—	13	—	47	518	1·6	5869	16·2	115
West Districts.																										
Paddington	148,913	—	13	12	—	1	—	1	9	—	36	3·2	—	2	—	—	1	—	—	—	2	5	0·4	149	13·0	90
Kensington	180,962	—	19	8	—	3	—	—	15	—	45	3·2	—	7	—	1	—	—	1	—	1	10	0·7	188	13·5	97
Hammersmith	120,679	—	24	20	—	1	—	3	9	—	57	6·2	—	17	—	2	2	—	—	—	2	23	2·5	134	14·5	89
Fulham	161,985	—	22	22	—	1	—	3	8	—	56	4·5	—	11	—	2	2	—	—	—	1	16	1·3	169	13·6	98
Chelsea	74,672	—	13	20	—	2	—	2	3	—	40	7·0	—	6	—	5	2	—	—	—	1	14	2·4	112	19·6	140
City of Westminster	173,905	—	25	9	—	—	—	1	15	—	50	3·7	—	—	1	1	1	—	—	—	2	5	0·4	175	13·1	94
North Districts.																										
St. Marylebone	128,580	—	11	8	—	3	—	—	7	—	29	2·9	—	7	—	—	1	—	1	—	1	10	1·0	162	16·4	80
Hampstead	89,633	—	13	7	—	—	—	—	3	—	23	3·3	—	1	—	—	—	—	—	—	—	1	0·1	63	9·2	88
St. Pancras	236,455	—	55	19	—	2	—	1	14	—	91	5·0	—	12	4	1	16	—	—	—	2	35	1·9	302	16·6	152
Islington	344,937	—	59	48	—	4	—	—	13	—	124	4·7	—	46	2	4	9	—	—	—	2	63	2·4	430	16·2	122
Stoke Newington	53,217	—	3	3	—	2	—	—	1	—	9	2·2	—	2	—	2	5	—	—	—	—	9	2·2	60	14·7	80
Hackney	230,721	5	68	27	1	4	—	4	19	—	128	7·2	—	3	2	1	3	—	—	—	1	10	0·6	265	15·0	97
Central Districts.																										
Holborn	55,805	—	7	2	—	3	—	—	—	—	12	2·8	—	—	—	—	—	—	—	—	—	—	—	78	18·2	61
Finsbury	97,466	—	28	14	—	4	—	1	15	—	62	8·3	—	19	—	2	6	—	1	—	1	29	3·9	148	19·8	94
City of London	21,367	—	7	1	—	1	—	—	3	—	12	7·3	—	—	1	—	—	—	—	—	—	1	0·6	23	14·0	43
East Districts.																										
Shoreditch	116,108	—	14	19	—	1	—	—	9	—	43	4·8	—	10	1	2	13	—	—	—	1	27	3·0	201	22·6	164
Bethnal Green	130,609	—	26	11	—	—	—	—	10	—	47	4·7	—	4	2	2	5	—	—	—	—	13	1·3	200	20·0	151
Stepney	307,176	1	93	33	—	5	—	1	17	—	150	6·4	—	8	4	4	18	—	1	—	9	44	1·9	434	18·4	121
Poplar	170,673	—	30	16	—	14	—	2	15	—	77	5·9	—	4	—	4	16	—	1	—	3	28	2·1	236	18·0	159
South Districts.																										
Southwark	209,143	—	63	24	—	1	—	—	19	—	107	6·7	—	12	5	—	6	—	—	—	2	25	1·6	328	20·4	150
Bermondsey	128,629	—	49	35	1	2	—	—	14	—	101	10·2	—	8	2	2	2	—	—	—	3	17	1·7	193	19·6	114
Lambeth	315,774	—	82	23	—	8	—	3	16	—	132	5·4	—	9	3	5	9	—	2	—	4	32	1·3	410	16·9	105
Battersea	179,622	—	51	7	—	4	—	—	9	—	71	5·2	—	7	3	—	7	—	1	—	1	19	1·4	179	13·0	120
Wandsworth	273,381	—	70	48	—	7	—	3	18	—	146	7·0	—	6	3	5	4	—	1	—	3	22	1·0	226	13·6	90
Camberwell	274,132	—	80	29	—	5	—	—	23	—	137	6·5	—	28	2	3	9	—	1	—	3	46	2·2	322	15·3	107
Deptford	115,496	1	51	8	—	3	—	1	8	—	72	8·1	—	24	3	1	8	—	1	—	1	38	4·3	194	21·9	143
Greenwich	105,350	—	17	43	—	1	—	—	8	—	69	8·5	—	7	—	4	8	—	—	—	—	19	2·4	131	16·2	113
Lewisham	148,453	—	41	22	—	1	—	2	5	—	71	6·2	—	5	1	2	1	—	—	—	1	10	0·9	151	13·3	97
Woolwich	127,345	—	35	30	—	4	—	—	10	—	79	8·1	—	—	—	1	4	—	2	—	—	7	0·7	146	14·9	114
Port of London	—	—	2	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

showed a slight decline from that recorded in the preceding month; among the various metropolitan boroughs this disease was proportionally most prevalent in Chelsea, Stoke Newington, Holborn, Finsbury, Poplar, and Woolwich. There were 65 enteric fever patients under treatment in the Metropolitan Asylums Hospitals at the end of last month, against 78, 95, and 79 at the end of the three preceding months; the weekly admissions averaged 11, against 13, 16, and 11 in the three preceding months. Erysipelas was proportionally most prevalent in Kensington, City of Westminster, Hackney, Finsbury, City of London, Poplar, Southwark, and Bermondsey. The 28 cases of puerperal fever notified during the month included four in Hackney, three each in Hammersmith, Fulham, Lambeth, and Wandsworth, and two each in Chelsea, Poplar, and Lewisham.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various boroughs, the deaths occurring in public institutions having been distributed among the boroughs in which the deceased persons had previously resided. During the four weeks ending March 31st 5869 deaths of persons belonging to London were registered, equal to an annual rate of 16·2 per 1000; in the three preceding months the rates had been 17·6, 16·0, and 15·9 per 1000. The death-rates last month ranged from 9·2 in Hampstead, 13·0 in Paddington and in Battersea, 13·1 in the City of Westminster, 13·3 in Lewisham, and 13·5 in Kensington, to 19·6 in Chelsea and in Bermondsey, 19·8 in Finsbury, 20·0 in Bethnal Green, 20·4 in Southwark, 21·9 in Deptford, and 22·6 in Shoreditch. The 5869 deaths from all causes in London last month included 578 which were referred to the principal infectious diseases; of these, 265 resulted from measles, 39 from scarlet fever, 56 from diphtheria, 158 from whooping-cough, 13 from enteric fever, and 47 from diarrhœa. The lowest death-rates from these diseases were recorded in Paddington, Kensington, City of Westminster, Hampstead, Hackney, City of London, and Woolwich; and the highest rates in Hammersmith, Chelsea, Islington, Finsbury, Shoreditch, Deptford, and Greenwich. The 265 deaths from measles were 23 above the corrected average for the corresponding periods of the four preceding years; this disease was proportionally most fatal in Hammersmith, Chelsea, Islington, Finsbury, Shoreditch, Camberwell, and Deptford. The 39 fatal cases of scarlet fever showed an excess of nine over the corrected average number; among the various metropolitan boroughs the greatest proportional mortality from scarlet fever occurred in St. Pancras, the City of London, Bethnal Green, Southwark, Bermondsey, Battersea, and Deptford. The 56 deaths from diphtheria were 15 below the average in the corresponding periods of the four preceding years; this disease was proportionally most fatal in Chelsea, Stoke Newington, Finsbury, Shoreditch, Poplar, and Greenwich. The 158 fatal cases of whooping-cough were 41 below the corrected average number; among the various metropolitan boroughs the highest death-rates from this disease were recorded in St. Pancras, Stoke Newington, Shoreditch, Stepney, Poplar, Deptford, and Greenwich. The 13 deaths from "fever" were five fewer than the average number in the corresponding periods of the four preceding years; of these 13 deaths, two belonged to Lambeth and two to Woolwich. The 47 fatal cases of diarrhœa were 16 below the corrected average number; among the various metropolitan boroughs this disease was proportionally most fatal in Hammersmith, Stepney, Poplar, and Bermondsey. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 17 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 115 per 1000. The lowest rates of infant mortality were recorded in Hammersmith, St. Marylebone, Hampstead, Stoke Newington, Holborn, and the City of London; and the highest rates in Chelsea, St. Pancras, Shoreditch, Bethnal Green, Poplar, Southwark, and Deptford.

AT the recent district council elections held in South Wales Mr. A. Gladstone Tribe, L.S.A., was returned for Treorchy, and Mr. R. T. Edward Davies, M.R.C.S. Eng., L.R.C.P. Edin., for Bedwellty.

Correspondence.

"Audi alteram partem."

TUBERCULOSIS—A MEDLEY OF REFLECTIONS.

To the Editors of THE LANCET.

SIRS,—When, now some years ago, the reports of Koch's tuberculin came out to these parts I was one of those who took up the treatment, even under the adverse conditions incidental to a country practice in what was then the colony of New South Wales. Greatly daring, I have no doubt many would quote the adage that refers to fools and angels in a way far from complimentary. Strange to say, though, I was not so badly taken by the disease but that my results did not have the effect of that disenchantment which seems to have come to so many. These results may be summed up by stating that improvement certainly resulted to the greater number, while the rest were just as certainly not adversely affected as to the time and order of their going. Of course, this last dogmatic statement is open to the retort that that is only my opinion and probably a pious one at that. So be it; only I cannot but state the distinct impression left upon my mind.

But while I thus attempted in my small way to follow up what seemed the premiss involved in this method of treatment, it never occurred to me that I was handling a panacea but merely one additional weapon in one's armoury for the setting back of the attacks of a subtle and insidious foe whose methods of attack were both various and supported by allies, such as impaired vitality, mixed infection, and public ignorance. Even at that date one felt that the problem was not so simple as that implied in the mere single-handed attack of a bacillus, which in the absence of the fostering concomitants of malnutrition, evil habits, ignorance of friends, and hereditary predisposition, whatever that may be as explained by our betters, was really waging a pretty hopeless conflict. For this reason one cannot but deplore the tendency to concentrate one's attention, and that of the public, upon any one mode of treatment. If the human system was a complicated machine and not a complex entity we might talk about a specific. For this reason, then—viz., the recognition that in the use of tuberculin one was availing oneself of the latest forged weapon of precision in dealing with a trying situation—I proceeded to use it as an adjuvant to other measures and feeling that, while it was perhaps at that stage a clumsy weapon, and learning, too, that in the hands of many it turned out to be a boomerang, it could only be made more useful by watching its results and correcting its divagations of action by variations of exhibition.

These other measures above alluded to did not cease at any time to be any less important; in fact, attention to the details of their application became more and more imperative, as being recognisedly means whereby the soil could best be tilled and enriched so as to respond to whatever aid the new ally could give in fighting the common enemy. The enlightenment of the public as to the real nature of the trouble as we ourselves learnt to appreciate its details, their instruction as to the value of fresh air, and plenty of it, the comparative unimportance of a mere getting a wetting, and the place of generous, though properly regulated, dietetic measures would all have to go hand in hand with our own untiring persistence in seeking to build up the nutrition of the sufferer and insisting upon his existing under those conditions which would most give fair play to the forces of nature. In fact, what was lacking, and one fears is even now much to seek, is that broad purview and catholicity of attitude that would allow of our learning to coördinate in due proportion all the various means at our disposal. But how can this possibly be done when we find our learned doctors setting one method of dealing over against another, just as though they were necessarily hidden foes to each other instead of regarding all as valued allies? Professor A. E. Wright and his collaborators are actively engaged in a crusade under the standard of T.R. and opsonins. Professor W. Watson Cheyne comes forward and wields a doughty cudgel on behalf of radical operative measures. He sees virtue, indeed, in a great deal of Professor Wright's contentions and his courtesy and appreciative attitude are most edifying, but he seems to damn with

faint praise. But for the life of me I fail to see what it matters if the "radical operation" fails at times, or if the "negative phase" is an elusive myth is there not that seed of good at the bottom in all these measures and where can we poor general practitioners come in? While our teachers are waging a warfare, the sound of which is inspiring as we note their *poste* and *riposte*, and admire their acuteness of vision in detecting the weak points in each other's armour and readiness to put in a thrust that shall settle his opponent's case, does it not behove us to busily occupy the field of conflict by adding facts which may throw light upon the subject at issue to vary the figure? It is this I believe we can do. We want the points of agreement, not the bones of contention.

If anyone can help us to this I am sure we shall all be pleased and it is as wishing to bring my small grain of fact I quote the following little experience of mine. A lady brought me last August her little boy, aged ten and a half years, with an enlargement of the cervical glands in the posterior triangle on the right side. The history was that about six years ago he had had a similar swelling and had consulted the late Dr. Clark of North Sydney who suggested the possibility of ultimately requiring operative measures. Meanwhile he ordered an unguent to be applied. After three or four weeks apparently it disappeared, but it seems that about twelve months before the date of visiting me it recommenced and progressed slowly to the size I saw it—a pigeon's egg. The boy clearly suggested tuberculous disease. I advised eradication but the mother begged an unguent. This I ordered. On seeing the boy in three weeks matters had progressed so manifestly that clearly an abscess existed. This I incised and scraped, explaining that I feared the glands as a whole ought to be cleared. But it was objected to. After a while healing seemed to progress satisfactorily but after closure re-accumulation took place. The parents consented to a more thorough operation and I now followed up each sinus and channel and curetted all round, even going under the sterno-mastoid and up toward the mastoid process. After dressing this each day for weeks with iodoform gauze and emulsion I began once more to agitate for a clean sweep—and now with some prospects of success. Indeed, arrangements were just about to be made when I perused the papers of Professor Wright and his *confrères* and I then offered the parents the alternative of this treatment, frankly telling them of its tentative character and the possibility of ultimately having to fall back on the radical operation, for I half felt that it was all a fairy tale. They consented. After some difficulty I obtained some of Koch's T.R. just landed in Sydney from Allen and Hanburys, and after some further delay through difficulties in obtaining a proper dilution under aseptic conditions, I started inoculations. At this stage there existed a cavity of about the size of a fair-sized marble, of irregular shape, with pockets that seemed fairly rough, while there was a callous feel in the walls. Discharge was very slight indeed though, but the aperture of entrance was rapidly contracting in the skin, nowhere else. This had been the state and size for some four weeks. After a couple of injections of what I thought was $\frac{1}{1000}$th milligramme of the T.R. at intervals of four days the site began to swell up and then to discharge freely again. I now discovered that my dilution, through some error of the manipulator, was of the strength of $\frac{1}{100}$th gramme. I got this rectified and meanwhile began to learn something of the mysteries of the "negative phase," so I recommenced and after half a dozen inoculations, of strength $\frac{1}{1000}$th milligramme twice, $\frac{1}{700}$th milligramme twice, $\frac{1}{500}$th milligramme once, and $\frac{1}{250}$th milligramme once, I had the pleasure of finding the swelling rapidly lessening, while the sinus closed up completely and there had been so far no re-accumulation. Now I may say I stopped the boy going to school and encouraged his swimming, bicycling, and carpentering in the open air, regulating the exercise. I saw that his sleeping apartment was properly ventilated and kept him for some time on syrup of iodide of iron but no other drugs. As a matter of precaution I am continuing the inoculations, though nothing but the scar remains and his people think I am fussy.

But here is a case for which, according to Professor Cheyne, radical operation alone could have availed, and, indeed, I told the parents so emphatically and only in deference to their wishes presented an alternative, and yet the exhibition of T.R. under the conditions sketched by Professor Wright worked a change that I would never have credited if I had not seen the process going on. One swallow does not make a spring, and I have no doubt that anyone who reads this could suggest half a dozen explanations; indeed, I could offer a few myself, but they do not satisfy me and I am quite content to leave those who are satisfied with their explanations to their solution. Again, I would draw attention to the unintended experiment of beginning with too large a dose and too short an interval and its results. Of course, this case is defective in its presentation in many ways, not the least of which is that I cannot tell you anything about the opsonic index. I am willing to take that on trust. I know this, that I intend to try T.R. again, though under a more cautious mode of administration if I get the chance, as without it I shall not feel that I have adopted every dodge I could. This may be very low ground and very unscientific, but I am not a bacteriologist, nor am I a pure scientist any more than a higher mathematician, for which reason all the technicalities of these researches are beyond me, so my withers are unwrung. But I can use a hypodermic syringe under aseptic conditions and I can see results. *Voilà tout!*

Having dealt, I fear at too great length, with one end of this subject I will, with your leave, turn to the other. I refer to the prevention of tuberculosis. Shortly, I consider that (1) every case of tubercle which is in conditions calculated to be productive of danger to any in its neighbourhood ought to be compulsorily removed to an area where such a patient can be cared for till death or an indication of hope warrants its removal to (2) the industrial village for curables where all cases can be collected, classified, and distributed to such conditions both of treatment and work deemed desirable; (3) that all cases coming under (2) be systematically given the benefits of treatment by T.R., while *not* neglecting work, open air, attention to nutrition, and such special drug treatment as may be indicated by the symptoms, or further experience may prove desirable, or any future investigations may bring to light. On such lines of advance as this I cannot think one is too optimistic in anticipating an eradication of this fell disease. Space forbids me taking up the very much more complicated question of dealing with that physical deterioration and predisposition which seem to underlie the prevalence of tuberculosis in its different forms, neither am I competent to do more than allude to it.

But now I feel I must draw to a conclusion a communication which in its discursiveness cannot profess to be more than a record of the impressions of one whose experience extends to over a score of years of practice and which alone is the excuse one can offer for intruding one's opinions, in conjunction with the satisfaction it has been to find some of the authorities engaged in the symposium upon sanatoriums enunciating principles and conclusions so confirmatory of one's own slowly maturing convictions.

I am, Sirs, yours faithfully,

G. A. VAN SOMEREN, M.D. Edin.

Mosman, New South Wales, Feb. 15th, 1906.

THE MANUFACTURE AND SUPPLY OF ELECTROLYTIC DISINFECTANT BY THE PUBLIC HEALTH AUTHORITY.

To the Editors of THE LANCET.

SIRS,—No doubt it will be interesting to your readers to learn what experience makes the actual cost of producing the disinfectant, more especially as in the past this matter has been constantly questioned and frequently asked for in the press. The 8*s.* 6*d.* (for which figure I am answerable) per 185 gallons at four grammes of available chlorine per litre, mentioned in the article in THE LANCET of March 24th (p. 852) was really the probable expenditure stated in my second report, based in the first place before actually producing the fluid upon a current of 30 ampères and 230 volts, which represents somewhere about five to six units per hour at a flat rate of 1½*d.* per unit, and allowing a good margin of 56 units being required during a working day of eight hours, would bring the cost of electricity out at 7*s.*, and with 9*d.* for salt and 9*d.* for magnesium chloride, the total amount would come to 8*s.* 6*d.*

Now, experience through constant working tells me that the apparatus designed by M. Hermite, if properly managed, works under 15 ampères at 240 volts, which makes the cost

of electricity 3*s.* 6*d.* per eight hours. The salt for every charge of 185 gallons is a fraction over 10*d.* at 24*s.* per ton, and magnesium chloride for every charge is a fraction over 8*d.* at £3 8*s.* per ton, and the chemical for rendering the oxygenated compound stable 7*d.*, so that the total amount may be stated at 5*s.* 7*d.* per 185 gallons at four grammes of available chlorine per litre. As to the stability of the fluid, the samples supplied to you and analysed in your laboratory, and the results stated in your issue of March 24th were samples drawn from the contents of carboys first produced by the Poplar apparatus, but under the able instruction of M. Hermite the fluid has been made very much more stable, if not quite stable, although, forsooth, the samples first made were stable enough for all practical purposes.

I am, Sirs, yours faithfully,

FREDK. WM. ALEXANDER,
Medical Officer of Health of Poplar.

April 3rd, 1906.

ANTERIOR OR POSTERIOR GASTRO-JEJUNOSTOMY.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 7th Mr. Herbert J. Paterson replies to, but I think does not answer, the criticisms and arguments in my former letter. Mr. Paterson seems to me to evade many of the points at issue between us; his arguments, if I may call them so, do not directly meet my main contentions. I will deal with the points in the order in Mr. Paterson's letter.

In my first letter I said, "the posterior operation as now performed is the better operation." Mr. Paterson italicises the words "as now performed," and replies that he expressly stated that his arguments referred to the operation "as usually performed." He then tells me that "in London at any rate the no-loop method is not yet that most commonly adopted." That is not the point. The operation of gastro-enterostomy, if one may judge from published reports, is not so frequently performed in London as elsewhere. Mr. Paterson, if he will look further afield, will discover that the posterior operation with no loop is really the operation usually performed. If he will ask any one of the surgeons who are doing the largest number of these operations I think he will find that the no-loop operation is that which is "most commonly adopted." Mr. Paterson refers to Dr. J. G. Mumford's case. He quotes it as an argument against the no-loop operation. So it is, but Mr. Paterson omits to state that there was a marked anomaly of the duodenum of a kind that has never been observed before in any operation upon the stomach and that it was because of this anomaly that the case was recorded. In another similar case Dr. Mumford says he would perform "posterior gastro-enterostomy and entero-enterostomy," and I think all will agree with that opinion. The conditions found in this case would have vitiated an anterior probably as much as the posterior operation, for the dragging on the afferent limb, if not sufficient to tear the anastomosis, would have caused constriction of the colon. If Mr. Paterson really thinks this case helps his contention there is, indeed, great thrift of argument on his side. I would further point out that I have never suggested that the no-loop posterior operation should be done in *every* case. As I said in my former letter, I still perform the anterior operation occasionally if the circumstances seem to me to need it. In such a case as Dr. Mumford's I should perform a "loop" operation with entero-anastomosis or possibly Roux's operation. The fact that the no-loop operation proved disastrous in one unique case is no argument at all against the operation but only against its adoption in that particular instance.

In his remarks upon internal hernia Mr. Paterson says that in one of my cases the hernia "has not occurred until after an interval of two years," and that since I have adopted the plan of stitching the mesocolon to the jejunum for less than two years it is "too early to speak positively as to the impossibility of internal hernia when the mesocolon is stitched to the jejunum." I find it difficult to deal with this statement, for it contains two inaccuracies and one disputable expression of opinion. I have used the method of stitching for two years and a half, not "less than two." The patient operated upon at the end of two years for an internal hernia had suffered ever since the original operation from vomiting due, as was thought, to the hernia which had almost certainly existed all the time. As to its being too early to speak of the effect of sutures placed as mine are placed in this operation I should really like to know what amount of evidence Mr. Paterson does require of the effect of sutures of this kind. In the few cases I have operated upon a second time, in malignant disease to perform gastrectomy, in simple disease for other conditions entirely, I have seen the mesocolic opening securely closed. If Mr. Paterson can conceive of the passage of intestine through the transverse mesocolon after the method of closure I practise, he is endowed with a fertility of imagination that has been withheld from me. In his reference to regurgitant vomiting Mr. Paterson does not accurately state the position. He gives a brief extract from my argument as though it were the whole argument and confesses his inability to follow the reasoning. That he does not appreciate my statement is clear from this: "Why if the obstruction be at the anastomotic opening should the loop play any part in its production, unless, indeed, Mr. Moynihan maintains that the obstruction is secondary to 'water-logging'?" "Unless indeed!" I do maintain that, and I said so. I wrote: "The proximal jejunal limb becomes waterlogged and obstructs, it may be, both afferent and efferent openings."

So far as concerns jejunal ulcer, Mr. Paterson's reply to my contention is singularly ineffective. I wrote: "It is almost certain that the posterior operation has been performed far more frequently than the anterior." Mr. Paterson's answer is that "a search through the records of the period 1881 to 1904 indicates that the anterior operation has been performed more frequently." Is that really an answer that satisfies Mr. Paterson? How many operations were performed in the first 15 years of this time? Not so many, I would venture to say, as in either of the years 1904 and 1905. I repeat with less qualification than before that the posterior operation has been performed more frequently than the anterior and I am amazed that anyone conversant with the practice of to-day should be in doubt upon the matter. But Mr. Paterson does not refer to the disproportion which I demonstrated between the number of jejunal ulcers following the anterior and the posterior operations (22 cases following the anterior to seven following the posterior operation), nor does he meet my point that it is the loop and the consequent low opening of the jejunum which are the factors to be considered in discussing this question.

Mr. Paterson refers again to the cases mentioned in his lectures where patients had lived from ten to 19 years after anterior gastro-enterostomy and asks, "Can the advocates of posterior gastro-enterostomy wish for better results than these?" Not for better results certainly, but we do wish for more frequent results, for a greater proportion of such results in the total number of cases. In the first 13 gastro-enterostomies I ever saw, all done by the anterior method, nine died as a result of the operation, most of them from regurgitant vomiting. But one of the patients lived certainly 11 years (and may be living still) in perfectly good health. The result in that particular case was brilliant but what of the remaining cases? The operation gave one superb result—and a ghastly list of failures. If Mr. Paterson asks whether I want a better result than in the one case I reply that I do not, but that is not my complete answer. I must add that I wish for an equally good result in all my cases. And with the operation as now or usually practised by me I think my wish is likely to be fulfilled, for the immediate mortality is insignificant, and we know now that the progress in the first year or two after gastro-enterostomy is indicative of what is to follow. Mr. Paterson in his righteous enthusiasm for the rescued few should not lose sight of the sacrificed many.

But Mr. Paterson's most astounding remark is reserved for his final paragraph. He says: "There is no conclusive evidence to show that the results, either immediate or remote, are better after the posterior than after the anterior operation. Until such evidence is forthcoming I shall continue to employ the simpler and, in my own experience, perfectly satisfactory anterior operation." Mr Paterson is deaf to the evidence that is before him. Is there any surgeon in any part of the world who can bring forward any large number of cases of the anterior operation which will compare in results immediate or remote with those recorded by the Mayos, Mayo Robson, Hartmann, myself, or others? Is there any surgeon who has a moderate experience of both operations who prefers the anterior method? Mr. Paterson does not tell us what his own experience of the posterior operation is, but the internal evidence afforded by his lectures and his letter shows me that it is small.

I am therefore not without a certain confidence that, as was the case with myself, his view of the relative advantages of the two operations will be modified by an increased experience of both. I am, Sirs, yours faithfully,

Leeds, April 8th, 1906. B. G. A. MOYNIHAN.

METHYLATED CHLOROFORM.

To the Editors of THE LANCET.

SIRS,—I noted your answer to a correspondent in THE LANCET of March 31st regarding methylated chloroform. As this was brought under my notice in a very practical way about a year ago, perhaps I may be permitted to make a few brief remarks in support of some of your statements. At a certain hospital where I was resident medical officer it was decided after careful investigation to try methylated chloroform instead of ethylated chloroform, as the former is just about half the price of the latter and the hospital finances were such that the utmost economy had to be exercised. Experience quite justified the change. As resident medical officer the duty of giving the anæsthetic fell to me and I was also able to note the after-effects.

My experience coincides with that of those who maintain that methylated chloroform is quite as good as ethylated chloroform. I experienced no greater difficulty in the administration of the anæsthetic and I found that the patients went under as well and as easily after exhibiting the same phenomena as when ethylated chloroform was given. I did not find after-effects more marked or more severe. In the majority of cases, especially if they had been in hospital for a day or two and thus had been well prepared, there were no after-effects. In a few cases there were headache, sickness, and vomiting, but these did not occur in a larger percentage of cases than one meets with when ethylated chloroform is given. I had eight months' experience in the administration of methylated chloroform, having during the preceding four months given ethylated chloroform, and I did not encounter any effect at the time of administration or afterwards which would justify one in saying that the former is more dangerous and more disagreeable than the latter. The fact that the methylated form is used in many large hospitals by men who are specialists in anæsthetic work shows that its value is well recognised.

I am, Sirs, yours faithfully,

March 31st, 1906. J. ALLAN, M.B.

SHERRY AND OTHER FORMS OF ALCOHOL IN ILLNESSES CHRONIC AND ACUTE.

To the Editors of THE LANCET.

SIRS,—When I first came to Spain some seven years ago I had as full a horror of sherry as any other equally ignorant Englishman. One of the first things I noticed on meeting in consultation my Spanish brothers was the universality with which they all ordered sherry instead of brandy. This is the more striking because they make very good brandy in Spain and French brandy is quite as accessible here as in England. I find that sherry is generally very much better borne by the very ill patient than brandy (a light sherry called "Fino"); one misses the flushing of the face, the hardness of the pulse, which brandy produces in doses of one to three ounces in 24 hours, yet in that time one will have been able to give from six to eight ounces of a light sherry, containing an equal amount of the higher ethers with quite enough stimulant for one's purpose and far more digestible. In convalescence or in more chronic troubles I prefer a heavy sherry, an "Oloroso" or an "Amontillado," and this latter always after meals. The light sherry has this great advantage over brandy—one that must appeal to every *gourmet*—that on an empty stomach it is more palatable. Who would choose to drink brandy on the stomach condition which exists in any illness?

The indications most commonly accepted for giving alcohol in acute illnesses are debility, heart failure, anorexia, high fever, &c. Pneumonia, delirium tremens, and typhoid fever are types of acute diseases in which one might desire to exhibit alcohol.

I have treated pneumonia now for two years with sherry when I wanted to give alcohol. As soon as I see that fever is beginning to overtax the strength, generally about the third or fourth day, I give one glass (sherry) of sherry every four hours. I also regard a falling-off in taking of food, of which I prefer milk, whey, or Mellin's food made with milk, as an indication to begin alcohol; in this case I order half a glass every four hours, or the same amount in food. The sherry I use in such cases is a light sherry—e.g., Nectar of Gonzalez, or a Manzanilla such as Divina Pastora for poorer patients. I increase this if there is any sign of heart failure or increasing debility up to a wineglassful every hour, or in one or two teaspoonful doses every ten minutes if necessary. The effects of such wines (and I only refer to them as types) is to steady the pulse, to clear the head, to clean the mouth, and perhaps for this reason to help the appetite, and sometimes to open the bowels; they also act as a diuretic. The patient, whether English, French, or Spanish, nearly always prefers sherry to brandy if he be allowed to try both. When the crisis is passed and the lower level established I give a heavier wine, such as Trafalgar, a glass every three or four hours, and I keep this up in diminishing quantities—i.e., four hourly, six hourly, three times a day, and twice a day after eating—until the patient is well. The only medicines I have used for three years in the treatment of pneumonia have been a little Dover's powder for the hard, painful cough, and later a little ammonium carbonate when the cough is already free, the latter nearly always as a placebo. The last case which I treated on champagne, digitalis, &c., certainly came through a very serious illness but remained with a hard dry cough which I could only get rid of by depriving him of all wines. He had a glass of champagne every two hours and for a short period (about 12 hours) every hour; all the time he was taking this he was very flushed and had much headache but his pulse had sunk to 40 and his nose and lips were blue. Parenthetically I may remark that acetic acid in wines gives rise to stomachic cough; a man with a hard, dry, useless cough who is drinking a cheap claret will frequently lose it if given an old Burgundy instead. I have occasionally as a last resource gone back to brandy. In one case the patient when I first saw her had a temperature of 41° C. (or 106° F.) and a pulse of 130, and in despair I advised her medical attendant to try brandy. One would scarcely expect betterment in such a case but she appeared more uncomfortable and the delirium was more marked after the change of alcohol.

In those cases of delirium tremens in which it is desirable not to do away with alcohol all at once I have found sherry very useful. A mixture containing digitalis, bromides, or chloral, with a dessertspoonful of a heavy sherry sweetened by a little glycerine prevents, firstly, the collapse and, secondly, helps to alleviate the troublesome craving, while as regards fever, appetite, &c., it acts as in pneumonia. In typhoid fever I have had too little direct experience to be able to say much, most of the cases I have seen being in consultation, but I find the same idea is followed. The Spanish medical man, however, rarely uses the heavier wines, nearly always keeping throughout to the lighter kinds. In chronic troubles—e.g., that languidness which one finds in the business man, anorexia, headache, and anæmia (though in this I think a Burgundy better)—I have found a light sherry most useful, one glass at lunch and one at dinner. If the luncheon glass causes heaviness, which it will in people unaccustomed to alcohol, then two glasses may be taken at dinner time, one with the soup and one with the fish. Far from producing biliousness the patient finds himself quite clear and with a delightful feeling of peace towards all men the next morning; and the greatest test of the goodness of any wine is, when drunk with discretion, the feeling better for it the next morning. I have often found the opposite with port, even with discretion, the patient being fractious the next day.

I have gone so far as to give sherry in cases of dyspepsia in which I suspected defective secretion and motility and I have met with some, though not unvaried, success: the modern love for whisky has either destroyed the palate or has led to an inordinate love of cheapness. The stomach, however, gains in tone and the mouth becomes cleaner tasting, and the bowels are frequently opened without other aid. For children sherry is undoubtedly the best alcohol; it can be sweetened and it does not so easily intoxicate as brandy, teaspoonful and half-teaspoonful doses, hourly or half-hourly, can be stood; from 15 to 30 minims hourly or two-hourly is a useful dose. In Jerez, where sherry is drunk in large quantities, and, in fact, all throughout the south of Spain, cirrhosis and gout are practically unknown.

Believing these things to be so I think that we ought as a profession, if others confirm my experience, to help to

undo the wrong which has been done to a large and once flourishing English colony, and at the same time to do good to our patients and our own reputations. The amount of raw immature spirit that is drunk as fine old whisky by direct medical advice is scandalous and has caused many a smile at our expense abroad. It should be axiomatic I hold never to drink a spirit when a wine will produce the effect desired.

All particulars about "Fino," Oloroso, and Amontillado wines can be got by applying at the London centre of the trade, which lies, like "tea," in Mark-lane. The retail man in England has destroyed the trade by not allowing the brands to appear.—I am, Sirs, yours faithfully,

MEDICUS.

THE FIFTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

(FROM OUR SPECIAL COMMISSIONER.)

Lisbon, April 7th.

ON reaching Lisbon my first care was to hurry up to the Congress Hall. It is indeed a question of going up, though fortunately, for the modest sum of 20 reis, or about 1*d*., a funicular railway takes the pedestrian up the steepest part of the hill. This rope-suspended car can be seen from the principal promenade of Lisbon, the Avenida da Liberdades, and is a few steps down a by-street called the Annunciada. On landing it is necessary to keep to the left through some small short streets and soon the large square known as the Campo dos Martyres da Patria is in view, and the first large building reached is that of the new school of medicine. The medical students of Lisbon will have good reason to thank the Fifteenth International Congress of Medicine. There is no knowing when their new school would have been finished. For a long time, for several years, the work progressed so slowly that it was quite impossible to predict when it would be completed. When, however, it became necessary to find a suitable meeting-place for the Congress then a real effort was made to finish the building. Now we find not only the walls, roofs, windows and doors, but a good deal of the fresco and other paintings are finished together with parquet flooring and other useful and ornamental things. Workmen are still busy on the premises but there is no reason why everything should not be finished in good time. The offices for the Congress are already installed on the premises. The secretary-general of the Congress, Professor Miguel Bombardi, is there in his office with his two assistant secretaries, M. Antonio de Azevede and M. Fernando de Mattos Chaves, accomplished linguists who show every disposition to assist the visitors about to attend the Congress. Then a very large office with numerous clerks and innumerable pigeon-holes, so that all the documents and every matter relating to the Congress may be kept in alphabetical order, has been established and is in full working order. Here the names and all details are docketed concerning the 1327 members of the Congress enrolled up to this day, together with the 362 ladies by whom they are to be accompanied. Of course, there will be many more members who will present themselves at the last hour but still it is already quite safe to say that the Congress this time has been maintained within reasonable bounds, for the congresses were becoming so very large as to be altogether unmanageable. The discussion should therefore be more easy to manage, particularly as the order of procedure has been carefully arranged. Of the 17 sections 15 have already published the official reports that are to constitute the bases of discussion. The lengthiest reports are those of the seventh section on Neurology, &c., which spread over 333 pages, and those of the sections on Military Medicine, on the Diseases of Children, and on medicine proper. Each of these has more than 200 pages of official reports awaiting the criticisms of the members of the Congress. They are well and clearly printed, though the papers appear some in English, some in German, but the larger number in French. The work has all been done in Lisbon and this speaks well for the cosmopolitan capacities of its workers.

Taking a hasty glance round the building I feel confident that the two amphitheatres, one for lantern projections with its patent roof closing over to produce complete darkness and the other for demonstrations and lectures on physiology, will be admired. The glass roof gives a beautiful light and the amphitheatres look bright and clean. Here there will be every convenience for demonstrations. The stairs to the first floor are very peculiar. The walls are decorated with alternating grey and salmon coloured embossed marble stones. This colouring is very strange and altogether original. At the top of the stairs a statue represents medicine and is the work of the Portuguese sculptor, Costa-Motta. Then there are fresco paintings by Senhor Ramalho and the vacant space for two large pictures on some medical subject. But the greatest display of painting is in the principal hall. Here we find the schools of medicine commencing with Hippocrates and terminating with such celebrities as Pasteur and Lister, together with a group of modern Portuguese medical men. In this pictorial history the debt of the science and art of medicine to the Moors has not been forgotten. The artist is Senhor Salgado and Senhor Gaia is the architect of the building.

The medical school is only separated by a wall from the large general hospital of St. José and, as previously explained, is also close to the Bacteriological Institute and most of the other hospitals and places which a medical student is called upon to frequent. This concentration will be of great benefit to the members of the Congress. So far my first impression on reaching Lisbon is that the preparations are well advanced, that there is no confusion, and that all is going on well.

The programme of the entertainments to be held in connexion with the International Congress of Medicine at Lisbon will be as follows. On April 19th the inaugural meeting will take place at 2 P.M. in the rooms of the Geographical Society and in the evening the President of the Congress will hold a reception at the School of Medicine. On April 20th a garden party will be given by Sir Francis L. Cook, Visconde de Monserrate. On April 21st the King will entertain the principal delegates of the various Governments at dinner. On April 22nd there will be bullock racing at Villa Franca, the journey there and back being made by water. On April 23rd there will be a *soirée* held by the Geographical Society. On April 24th the King's garden party will take place at Necessidades and in the evening there will be a reception held on behalf of the Government to which the delegates sent by the various Governments, as well as by schools of medicine and scientific societies, will be invited. On April 25th there will be a reception of the members of the Congress on behalf of the city. As above indicated, only a minority of the visitors will attend the King's dinner party and the Government reception but the other entertainments are open to all the members of the Congress. The sittings of the sections of the Congress will take place in the School of Medicine from 8.30 A.M. to 2 or 3 P.M. on April 20th, 21st, 23rd, 24th, and 25th. The general meetings will be held on the afternoons when no entertainment is provided.

THE DAY HEALTH RESORTS OF GERMANY.

(FROM A CORRESPONDENT.)

IT is proposed in the present article to draw attention to certain German institutions for tuberculous and other patients. They represent, indeed, only one restricted form of a many-sided conflict but they link themselves with other and socio-political aspects of the health question. The day health resorts, or, as they are also called, woodland health resorts (*Walderholungsstätten*), are a recent development dating only from the year 1900, but they may be regarded as having passed already out of the experimental stage in Germany.[1] They have taken their place as a permanent branch of the Imperial health policy. The time therefore seems opportune to consider the method and sequence of their working and also to inquire how far

[1] Outside Germany they are little known, but there are stations at Vienna and at Mons (Belgium), Feis. Die Walderholungsstätten und ihre Volkshygienische Bedeutung, 1905.

similar institutions are suitable to the conditions of our own country.

The Day Health Resorts are largely, though not exclusively, used for tuberculous patients, and the proportion of male tuberculous cases is higher than the female. Thus at Jungfernheide, the earliest Berlin station, the cases of tuberculosis are 438 in number and those of all other diseases are only 87. This is exceptionally high and the proportions vary widely. They are at Frankfort 33·3 per cent., at Posen 56 per cent., and at Berlin 70 per cent. of the total patients. The stations are resorted to as their name indicates in the daytime. The patients return to the town in the evening and sleep in their own homes. This is the specific feature of the institution and as the wisdom of such a policy is hardly to be accepted without inquiry and must largely be decided by experience it is proposed shortly to return to it. The fact that patients go to the health resorts in the morning and return at night limits the choice of situation. It must, of course, be healthy and it must be near to the centre of population for the sake of easy transit. Patients travel by suburban train or by tramcar and the railway or tramway companies usually assist the work by granting reduced fares. The history of the movement is briefly told. Proposals were put before the Berlin Conference on Tuberculosis in 1899 by Dr. Becher and Dr. Lennhof. The first station was opened in 1900; five others (four for Berlin and one for Leipsic) followed in 1901. In 1902 and the following years the experiment was imitated at Frankfort, Hanover, Cassel, Munich, Halle, Karlsruhe, and other places. The day health resort, therefore, has adapted itself so well to towns of varying rank and size that more than 30 such stations are now opened or planned. But in saying this the rapidity of their growth is only partly indicated. At Frankfort, for instance, the number of patients increased from 552 in the year 1902 to 676 in 1903, and 1006 in 1904. The original intention was to make use of the health resorts during the summer months only. But one of them, situated at Eichkamp in Grünewald, near Berlin, has since January, 1905, been open during the winter also. In future this extended use seems likely to be more generally adopted; indeed, a second station for women (Eichkamp is for men) will be open next winter. I visited this first winter health resort in January, 1906, and something of what I then saw and heard may be of interest.

The Woodland Health Resort Louise Studt of the Red Cross Society is pleasantly placed in a wide pine forest and lies at an easy walking distance of ten minutes from the railway station. The ground lightly sprinkled with snow, the crisp air, the bright sunshine, and the fragrant and quiet wood are a good welcome to the 50 daily guests. Some of them are seen presenting their cards of admission at the window of the sister's office in the bungalow. Presently they will receive half a litre of milk, at midday a substantial meal, and milk again in the afternoon, while other refreshments can be had at a small cost. The regulations are few, the guests being allowed, as the sister expresses it, a good deal of freedom, only after dinner each man must rest for two hours. For this purpose there are couches set under a roof on a raised floor. The shelter has back and end walls but in front is entirely open to the air. For the rest of the time they walk and talk, chiefly in the woods, though they are not forbidden to enter the house. Smoking is prohibited. In addition to the sister's rooms and the kitchen the bungalow contains a dining room, but in summer meals are taken out of doors. The men are provided with blue-glass stoppered pocket spitting flasks which have to be cleaned regularly by their owners and are retained after the sojourn at the health resort is over. The man takes it home with him and it is expected that he will continue to use it.

The results obtained in winter are said to be even better than those obtained in the summer when the heat is sometimes oppressive. The winter course of treatment is therefore at least as good as the summer course. But what is the value altogether? Does not the return of the patients to their homes at night neutralise the value of the fresh air in the daytime? The answer is in the negative, because the results are good. No doubt in itself the sleeping in close rooms is undesirable. But home oversight and after-care lead to improvement in home conditions. The general judgment is that though the system is not ideal it is in practice found to be beneficial. Thus, for instance, Dr. Lennhof, who is connected with the children's health resort, "Sadowa," at Berlin, states that the children increase in weight. It must be admitted that through insufficient nourishment their weight was below normal when they came, and the increase is partly due simply to good feeding. But there also occurs a marked improvement in the general condition among rickety and scrofulous children and children in the early (*leichten und mittleren*) stages of tuberculosis.[2] It will be seen presently that this medical opinion is endorsed by the insurance agencies and as this endorsement rests on business grounds it is weighty. The insurance managers are obliged either to restore their members to health or to support them and they find in the day health resort a good aid towards the desired result of renewed industrial efficiency. The health resorts, then, have been accepted in Germany as a valuable addition to the means available for the conflict with disease. They are used for three classes of patients—namely, (1) such as are waiting for admission to a sanatorium; (2) such as are ineligible or indisposed to go to one; and (3) such as have resided in one and still need what may be called a day continuation schooling in health.

The report of the Red Cross Society to which I have referred contains a great deal of interesting information as to the social importance of the health resorts—much more than can be used on the present occasion. It also gives the detailed medical reports of the six Berlin health resorts. Some part of one of these may here be summarised. Dr. Becher's report begins with a statement of the increasing value attached to the Schönholz health resort by pastors, medical men, and teachers. The school medical officers and the Advisory Nursing Association have especially welcomed it. The institution was at first intended for children of school age (from six to 14 years), but in the past year it has been open to younger children. This is important in view of the present knowledge that the beginnings of tuberculosis date so often from early childhood. From an examination of 754 children Dr. Becher finds that the patients usually suffer not from one disease but from a complex of two or three. The primary diseases noted are most frequently rachitis, chronic swelling of glands, tuberculosis, or anæmia. The first of these is frequently found alone, though often with bronchial catarrh, &c. But when one of the others is primary, rachitis (or traces of its former mischief) is very commonly also present, and indeed frequently together with other ailments, and each of the four classes is often found associated with one or more of the other three. So numerously repeated does Dr. Becher find the correlations that he deduces a type of these complexes. The length of sojourn at the health resort varies between one day and 139 days. 212 children remained between three and four weeks and a majority of the whole between two and seven weeks. In most cases a gain in weight was noted. Thus, in the case of 58 boys and 72 girls the gain of weight was 1 pound; for 60 boys and 81 girls it was 2 pounds; for 65 boys and 85 girls it was 3 pounds; for 36 boys and 56 girls it was 4 pounds; and for 22 boys and 30 girls it was 5 pounds. On the other hand, in the case of eight boys and eight girls there was a decrease of 1 pound in weight and with one boy and one girl a decrease of 2 pounds. Many of the children, continues Dr. Becher, are obliged to leave the health resort in the afternoon to go to work, and this shows the necessity for an amendment of the law for the protection of children to the extent of absolutely prohibiting the employment of sick children. Another aggravating cause is found in the family circumstances, as, for instance, when the children are orphans. Many tuberculous children had been at school until just before their admission to Schönholz and must therefore have been a danger to their class-fellows.

The Advisory Nursing Association which has just been mentioned exists side by side with the Health Resort Society but is a distinct organisation, the working of which depends on consulting physicians and the advisory nursing sisters. The membership of the two, however, is partly the same and they mutually support and supplement each other. On the one hand, the advisory sisters may indicate cases suitable for treatment at the health resorts; on the other hand, they follow up cases which have been, or are being, so treated. The work of the sister is to visit in the homes[3] and to consult with the patient and the family. She tries to secure that the patient shall sleep in a separate room, or at least in a separate bed. On occasion the society buys a bed or pays the extra rent involved in

[2] Jahresbericht des Volksheilstätten-Vereins vom Roten Kreuz für 1904, p. 77.

[3] For the similar system which it is proposed to start by the authorities of Brompton Hospital see THE LANCET, Feb. 3rd, p. 316.

moving into a larger dwelling. This, however, is by the way. Its chief function is to give the advantage of trained and skilled advice and in addition to correspond with other institutions or to supplement other modes of treatment by friendly oversight and instruction. (For the working of these Auskunfts- und Fürsorgestellen see Verwaltungsbericht über das Königliche Charité-Krankenhaus von Ernst Pütter, or Chapter VIII., by Dr. Pütter in Der Stand der Tuberkulose-Bekämpfung in Deutschland.) The working during the first nine months, from September, 1904, to June, 1905, is shown as follows: medical consultations, 4821; visits to homes, 4897; beds provided, 186; rent paid, 1376 marks; and additional patients sent to health resorts at the cost (1) of the sick clubs, 304; (2) of the poor administration, 111; and (3) of the committee, 146.

The day health resorts have had results in Germany which competent judges describe as satisfactory. It remains to consider whether a similar system can be expected to be equally successful in this country. The chief difficulty in the way of an answer lies in the great differences between the social ideas and institutions of the two peoples. The German day health resort depends on another socio-political institution and one which does not exist among us—namely, the compulsory and universal labour insurances. The social student in Germany is surprised at every turn by the numerous and unexpected ways in which this institution supports all kinds of effort for social hygiene. No general account is possible here but the subject is of first-class importance. The German labourer is insured, in the first place, against accident, the premium being paid by the employer. He is insured, secondly, against sickness. Here the premium is paid as to two-thirds by the employed and as to one-third by the employer. Lastly, there is the invalidism and old age insurance in which the burden is shared between employer, employed, and the State. The bearing of these insurances on the problem is important. The management of the insurance funds rests with committees of employers and workers strengthened by the addition of skilled administrators. Their proper business is to restore health or to support those unfit for labour. They naturally seek to effect their object in the most economical manner; only in course of experience economical has come to mean most thorough. Now the insurance managers are not obliged to use the day health resorts. In certain circumstances they may do so and they use their powers in this direction freely—so freely that the largest number of patients at the health resorts are sent there by the sick clubs and of course are paid for by the insurance. Thus, for instance, at Jungfernheide 491 out of 525 are members of sick clubs. The bearing of this on the financial problem is obvious. The health resorts are, indeed, usually established and managed by the Red Cross Society or some similar union. And as the erection is not a costly affair this comes within the scope of private philanthropy. (The cost of the establishment at Düsseldorf for building and furnishing was rather more than £600; the one at Karlsruhe about £700.[3]) The crux is always found in securing a steady and adequate yearly income. The heaviest part of this burden does not fall on the society. Some patients certainly are supported by private means but a far larger number by the insurances or the Poor Direction.

In England, however, we have not this legal labour insurance scheme. It might be possible to erect and to carry on a single experimental station entirely by private means. But if the movement is to have any extended operation it must be linked to existing institutions. In the first place the adoption of this as an auxiliary to our sanatoriums might be suggested. In Germany, as was pointed out, the day health resorts are used by people waiting for admission to a sanatorium. In England also there is this period of delay, a period which constantly grows longer. In the interval many patients pass from the early stages in which recovery is possible to advanced stages in which this is no longer the case. Now, as compared with the cost of sanatorium treatment, the expense of the day health resorts is small. The use of such means would serve to reduce the pressure on the hospital. Moreover, many patients might never need to go to the residential institution were they sent in good time to the simpler day health resort.

In the second place, there might be an agreement with such forces as the trade union and other sick clubs and the Working Men's Club and Institute Union. The latter is already earnestly engaged in the fight against consumption. Probably if health resorts were established near the great towns the union would use them for its members and, of course, would pay the necessary daily cost. The trade and other sick clubs would also avail themselves of such health resorts, seeing that they are found to be an economical means for restoring a man to the power of working.

In the third place there are the Poor-law guardians. They have already in several places been quick to avail themselves of modern methods of combating consumption. They have their open-air wards in infirmaries; they have even their finely equipped sanatoriums, as at Eastby Crag, near Bradford. If the day health resort is a good substitute for, or auxiliary to, residential hospitals and if, as is the case, the guardians have the power of subscribing to such resorts, then the managers might anticipate patients being sent by the Poor-law unions. In any case, it would be mere commonsense to consult these and similar bodies in order to enlist their interest and coöperation. Assuming that patients are drawn from these three classes then the financial responsibility of the managers is so far divided and reduced. Other patients would naturally be sent and paid for by private means, still others might come, as in Germany, as self-paying guests. The cost of board is not great, say 6*d*. or 7*d*. a day. But for the economical working the number of guests should not be less than 150. What has so far been said points to the need for a good deal of preliminary conference and inquiry, and as this needs, naturally, to be done in compliance with local circumstances, it is unnecessary to pursue the matter into further detail. I simply draw attention to these existing organisations which might give to the health resorts some of that socio-political stability which is afforded in Germany by the labour insurances.

One interesting adaptation of the German day health resort may yet be mentioned as it suggests a further English organisation with which the movement in this country might advantageously be connected. The city of Charlottenburg has started a health school in the woods. It is for such children as are not fit to attend the ordinary school in the town and yet are not ill enough to require hospital treatment. Nothing can be more charming than these woodland schools. The lesson hours for each child are short, the time set apart for rest is ample, and the meals are nourishing and good; then there are gardens to be cultivated and trees and flowers to be enjoyed. Even the blackboard lesson in arithmetic becomes a fine as well as a useful art when the wind plays through the trees and the sunshine makes wonderful patterns on the dear earth. It is a realm in fairyland. For all that, real school work is done. What concerns us more closely at present—health is gained. The child is sent to the health school by the medical officer and is certified to be suffering from some ailment or the child's body is a seed-plot of weaknesses which are only too likely to ripen later into aggravated sicknesses and these may corrupt and spoil a whole life. As is body, so is mind. When they come to the woodland school the sweetly reasonable spontaneity of childhood is not in them. When they leave the ailment is alleviated or cured, the complex of inabilities has been replaced by a fund of healthiness, and the mind has regained its tone. This school in the wood is closely linked with the working of the school in the town. Prominent in authority there is the medical officer—a necessary, permanent, significant force in the school life. We in this country also are coming to recognise the necessity for medical representation in the school as an integral member of the school staff. As we adopt this policy more fully we may hope to find in this country also the woodland health school as a rightly valued supplement to our educational resources.

[3] See Feis, op. cit., where also plans are given.

HOSPITAL SATURDAY FUND.—The thirty-second annual general meeting of the Hospital Saturday Fund was held on Saturday last at the offices of the Fund, Gray's Inn-road, Sir Savile Crossley, chairman of the Fund, presiding. The report of the council for 1905, which was adopted, showed that the receipts from the workshops and business houses had reached £25,930, as compared with £24,344 in 1904. The total was the highest recorded in the history of the movement. The expenses of management reached 9 49 per cent. on the gross receipts. The board of delegates in January last distributed the sum of £23 631 among 202 hospitals, dispensaries, and convalescent homes, this amount being £1766 more than in any former year.

PORTUGAL OF TO-DAY.

(FROM A CORRESPONDENT.)

III.[1]

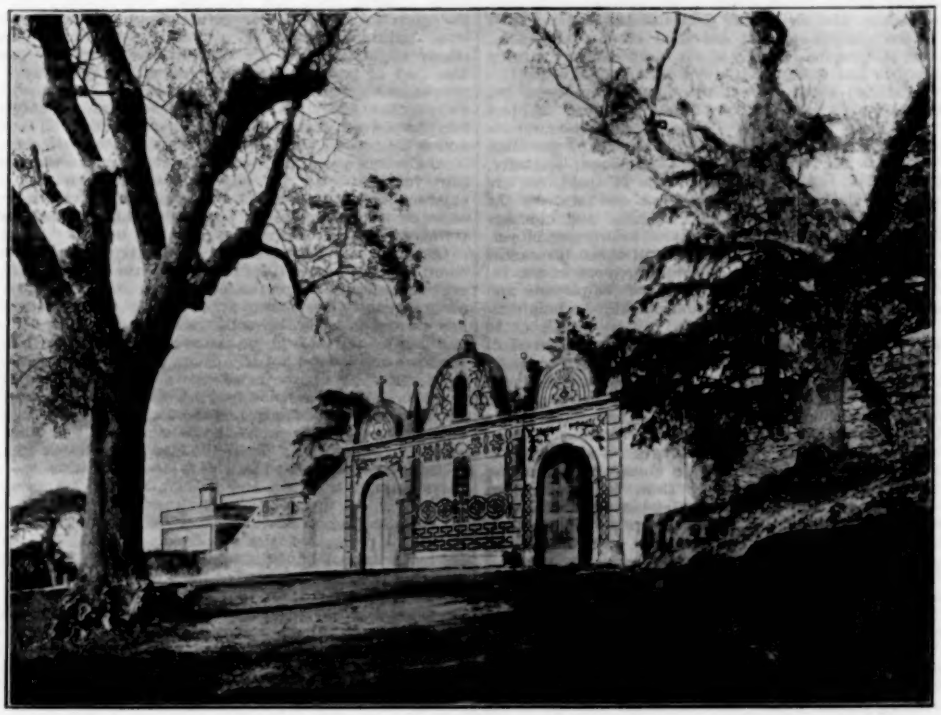
LISBON AND THE PREPARATIONS FOR THE CONGRESS OF MEDICINE.

I HAVE so far in these notes referred only incidentally to Lisbon and that district of Portugal in which the capital is situated and it is not proposed to do more here than to touch lightly on the beauties and interest of this the best known and perhaps the most picturesque region of the whole country. The view of Lisbon and the magnificent harbour formed by the broad expansion of the Tagus near its mouth is justly considered one of the finest of any of the seaports in Europe and has been compared with the view of Constantinople in point of situation and splendour of appearance. The approach to the city from the Atlantic has been described by many writers but the following description by one of Wellington's officers, which has been quoted by Commander the Hon. H. N. Shore in a recent book on Portugal, may perhaps be reproduced here as giving as complete and at the same time as succinct an idea of the view of the city from the Tagus as any. He says: "On awakening next morning and looking around me the scene appeared one of enchantment. The world was basking in a blaze of golden light such as I had never before witnessed. Lisbon sate, queen-like, enthroned upon her hills, surveying her beauty in the Tagus,—calm and majestic, as if the earthquake which had hurled her to the dust had never slept below, or would never wake again." This description, written somewhere about a century ago, might equally apply now. The tremendous earthquake to which the writer refers took place in 1755 so that at the time the above lines were written this terrible disaster which practically destroyed the city and killed some thousands of people would still be comparatively fresh in the memory of man. The terrible havoc worked by the earthquake necessitated the city being practically rebuilt, the character of the new city which arose out of the ruins of the old being largely influenced by the designs of the then Prime Minister, the Marquis of Pombal, one of the ablest men whom Portugal has ever produced, and to whose memory many of the finest buildings of the present city may be said to serve as permanent monuments.

Readers of Byron's "Childe Harold" or of descriptions of Lisbon by other less well-known writers up to the middle of the nineteenth century will find that till that time the capital had an unenviable reputation for the filthy state of its streets and the abominable stenches with which the atmosphere of the city was laden. During recent years, however, improvements have been many and far-reaching, and modern Lisbon can be said to hold its own with any continental town as regards cleanliness, while as regards its many fine buildings and broad streets and squares it can compare favourably with most of the European capitals. The magnificent Praça do Commercio, better known as "Black Horse Square," is said to be one of the finest sites in Europe. Both it and the fine "Avenida" are monuments of the skill and design of the famous Marquis. Of the various ecclesiastical buildings the Church of Belem is perhaps most worth visiting, a fine specimen of Gothic architecture and an example of the ornate carving in stone which so many of the churches in this country present. The church was built to commemorate the safe return of Vasco de Gama from his voyage of discovery to India and is situated at the spot where the famous navigator embarked.

In these brief notes it is, of course, quite impossible even to mention the various churches, palaces, gardens, and buildings of the city that are well worth seeing, but visitors to

FIG. 1.

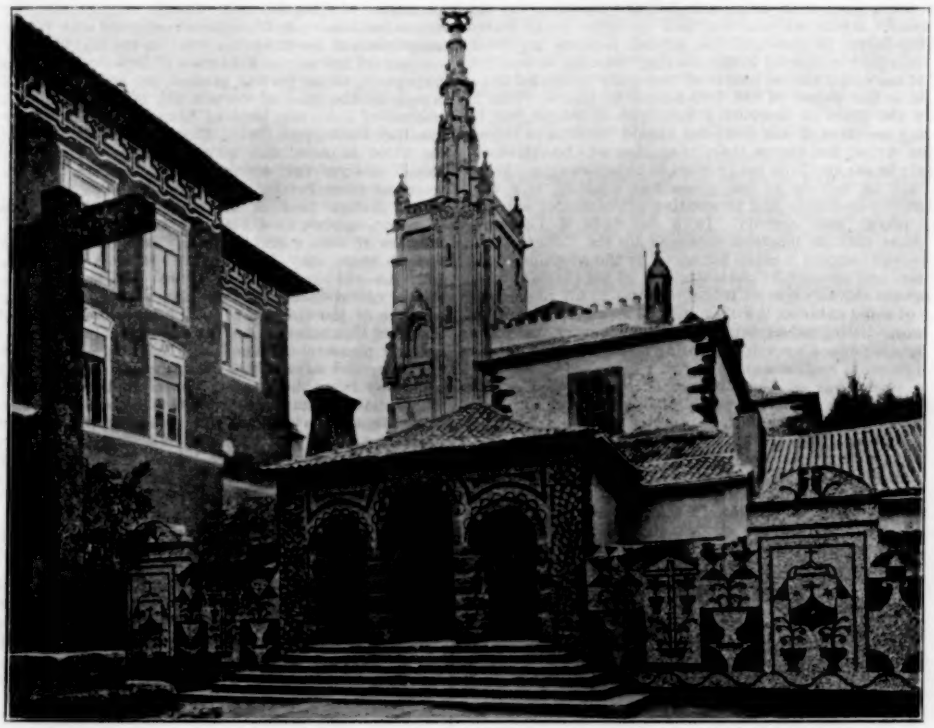


Porta de Coimbra, Busaco.

[1] Nos. I. and II. were published in THE LANCET of March 24th (p. 856) and 31st, 1906 (p. 934), respectively.

the Congress will find that every facility will be given them of seeing everything that is of interest, either medical or otherwise, and their movements about the town will be much aided by the extremely good service of trams of which the city can boast. Lisbon as the capital of the country, the centre of the Court and of the Diplomatic Services, and the seat of Government, may be said to have lost to some extent the peculiar characteristics of a Portuguese town and to have become assimilated in type to other European capitals. Thus towns such as Coimbra, Oporto, or Braga, though much less pretentious than the capital, retain the national characteristics far more in many ways and to visitors seeing the country for the first time will on that account probably be more interesting if less imposing. Apart from the Diplomatic and Consular Service the British colony at Lisbon is composed of some 700 people, most of whom are engaged in commerce, either shipping or the exportation of cork, wine, and other things. There are an English church and clergyman, a good social club, as well as cricket and other atheletic clubs. The many improvements in Lisbon during the last 25 years have contributed very largely to raise the standard of health in the city and if, as in most of the southern towns, the death-rate remains relatively high, this must in great measure be attributed to the prolonged heat and drought of the summer months and no doubt to some extent to the want of adequate isolation of cases of infectious disease to which I referred in discussing the public health of Oporto. Fortunately for the health of Lisbon, the city enjoys an abundant and pure water-supply, an inestimable advantage in a country where practically no rain falls sometimes for two or three months together in summer and where sanitary measures are, to say the least, indifferently enforced. The water-supply of Lisbon is brought a considerable distance by the magnificent Alcantara aqueduct, some 200 years old, which as a monument of engineering skill is unsurpassed by anything now existing of its kind. The standard of health in the better parts of the city is relatively good, but among the poorer people dirt, overcrowding, want of ventilation, and disregard of the most elementary sanitary precautions largely contribute to increase the mortality from epidemic diarrhœa, tubercle, small-pox, and other more or less preventable diseases. The summer in Lisbon is often extremely hot and even at this time of year the heat of the sun is a factor to be reckoned with—a fact that the members of the approaching Congress will do well to bear in mind. Apart from sunstroke, which is not common at this time of year, the minor effects of exposure to the sun without insufficient headgear, either in the way of sickness and headache, or of violent naso-pharyngeal catarrh, may be sufficiently severe to deprive a visit to the city of much of its pleasure, if not to necessitate lying up for a few days.

FIG. 2.



Entrance to the Monastery, Busaco. It will be noted that the spire of the church is capped with a sphere instead of a cross. This custom was introduced by Manoel the Great, 1496–1521, who chose for his motto Psalm xxxvii., v. 3, "Spera in Domino." He spelled it "sphera" and from his time many churches were surmounted with a sphere as the emblem of Hope.

THE APPROACHING CONGRESS.

While various arrangements may be changed or modified before the commencement of the Congress, intending members may rest assured that nothing will be left undone to render their stay in the capital as interesting and pleasant as is possible. Careful arrangements are being made to insure that the large number of visitors shall be comfortably lodged in those parts of the city that are most convenient and close to the buildings in which the Congress will meet and foreigners may rely on being treated with the most courteous hospitality not only by their medical *confrères* but by the people of Lisbon generally. The opening *séance* will be held in the hall of the Geographical Society and in the same building an exhibition which promises to be of much interest has been organised by

those responsible for the management of the section for colonial and naval medicine. The subsequent meetings of the various sections will be held in the new buildings of the Lisbon Medical School and plans of the rooms devoted to the various sections have been printed. Apart from the organisation of the work of the Congress various arrangements are being made to entertain the large number of visitors that the occasion will bring into the capital. Three large general fêtes will be held, one of which, it is understood, will consist of a large garden party, and details of the other two are to be announced shortly. In addition there will be various receptions and dinners and a bull-fight *à l'ancienne portugaise* will take place especially for the entertainment of the members of the Congress. In case any intending visitors should have scruples about attending the latter entertainment they may rest assured that a Portuguese bull-fight presents none of those features of cruelty and beastliness that are so characteristic of Spanish bull-fights. The disgusting brutality incidental to the maiming and goring of horses that takes place at a Spanish bull-fight has no counterpart in Portugal, where the bull's horns are tipped with leather and where the great object of the rider is to preserve his horse from being touched or "insulted" by the bull at all. Again, whereas the bull in Spain never leaves the ring alive, in Portugal the animal receives no more hurt than that incidental to the sticking into his insensitive neck of the small barbed points of the gaily decorated darts that it is the object of the bull-fighter to insert. This is hardly the place to describe a bull-fight at length, but in case any members of the Congress should hesitate to attend one the writer can assure them that they will be extremely unlikely to see anything really cruel or objectionable. What they will be certain to see, given fine weather, is a very picturesque spectacle and an exciting exhibition of extreme skill, pluck, and activity. In a bull-fight *à l'ancienne portugaise*, such as has been arranged for the Congress, the picturesque element is much enhanced by the adoption of the costumes and ceremonies characteristic of the old days when Portuguese chivalry was at its height, and in all probability many of those entering the ring will be members of some of the most distinguished families of the country, to whom bull-fighting appeals as much as hunting or pig-sticking appeals to the sporting Englishman.

The short time at the disposal of the majority of the members of the Congress will probably prevent any long excursions from the capital, especially as the country is badly supplied with railways and the train services, with few exceptions, are slow and infrequent. For those who can spare the time either before or after the Congress there are a number of places in the neighbourhood that are particularly interesting, such as Batalha, Mafra, Torres Vedras, and Busaco, the two former on account of their buildings and the two latter on account of the scenery and particularly on account of their importance in the history of the Peninsular war. The Special Commissioner of THE LANCET has recently indicated [2] how these can be most conveniently visited. (See Fig. 1.) Others who are unable to get so far afield from Lisbon will at least be able to visit Cintra, famous for the remarkable beauty of its scenery, the picturesque Castello da Peña and the ruins of the old Moorish castle, or Cascaes and Mont Estoril, the fashionable watering-places to which Lisbon society resorts to escape the grilling heat of the city in the summer months.

TRAVEL IN PORTUGAL.

The time of year at which the Congress is held has been most happily chosen, as during the months of April and May the country in Portugal is looking at its best and it is safe to predict that many of those who see it under such favourable auspices will leave with regrets and with resolutions to return. In my previous remarks on the climate, watering-places, and public health of the country I have attempted to indicate, as far as is possible in few words, the capabilities of the country as a resort for invalids or at least for those in delicate health. The great drawback to Portugal as a health resort is the want of suitable accommodation and the provision of such comforts and refinements as an invalid naturally expects. There are, needless to say, good hotels at Lisbon, Estoril, Busaco, Oporto, and one or two other of the more important towns, while the accommodation at the various inland watering-places, though plain, is for the most part clean and healthy. At the average country hotel, with few exceptions, comforts are conspicuous by their absence. The floors are bare, the walls usually are whitewashed, and the furniture is of the simplest and scantiest description, features which strike the visitor at first as being lacking in comfort and refinement but which have obvious advantages in a hot climate where animal parasites swarm wherever they get a chance. The food provided is usually plain and not over digestible and the crockery and cutlery are both coarse and inferior. As one gets more into the country and farther from the beaten track the inns get more primitive still, the food more coarse, and cleanliness of board and bed is at a discount. These considerations make it obvious that for an invalid the choice of places at which to stay in this country is strictly limited, consisting as it does of two or three of the larger towns, one or two places along the coast, and a limited number of inland watering-places and "show" localities. To anyone possessing ordinary health and a tolerable digestion, and especially to anyone who is not too fastidious and does not mind "roughing it" to some extent, Portugal offers a much larger field for travel. To the archæologist and historian the country presents many places of interest on account of the numerous Roman remains, the fine specimens of Moorish and Gothic architecture, and the various battlefields and fortresses connected with Wellington's campaigns and the numerous wars in the Middle Ages which the country has seen. Evidences of artistic taste among the Portuguese, either past or present, are conspicuously absent, except in the case of certain old buildings and a limited amount of a certain kind of blue and white pottery, the so-called Portuguese delft, the general idea of which, as the name implies, was taken from the Dutch, while the special designs for ornamentation appear to have been borrowed from Persia. (See Fig. 2.) The modern Portuguese, though fond of social amusements and especially of music, appear, as a class, to be very indifferent to the beauties of nature and singularly deficient in artistic taste. Though there may be little to interest the student of art, yet the country, owing to the beautiful scenery, bright colour-effects of the landscapes, and picturesque costume of the country people, offers a wide field of work to artists themselves. Anyone travelling in Portugal merely for the pleasure of seeing the country and studying the character and ways of the people would be well advised to get away from the few big towns to the country places, where the inhabitants, away from the civilising influences of town life, though ignorant and primitive, will be found very pleasant and obliging people to be amongst. Of the various country districts of Portugal, that of the Minho in the north is the one which would most appeal to an English visitor, whether an artist or otherwise. The beautiful mountainous scenery, bracing air, fertile country, and prosperity of the people combine to make this the most pleasant part of the whole of Portugal to visit and anyone who wishes to have an interesting holiday and a complete change and who is willing to put up with primitive lodging and plain food might do far worse than spend some two or three weeks walking or riding about in this district which is one of the most beautiful parts of a picturesque but little known country.

[2] THE LANCET, March 17th, 1906, p. 791.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Druggists and Medical Advice.

AN inquest was held on April 4th as to the death of an elderly woman from peritonitis. On the previous Saturday night a neighbouring druggist had prescribed for her and dispensed his own prescription. On the Sunday morning she died and the medical man who made the necropsy stated that he thought the medicine would rather tend to aggravate her condition than otherwise. The druggist told the coroner "he had been in the habit of prescribing in simple cases and from the information given him by the woman's daughter he did not think he would be doing his duty had he not given her something to relieve the old lady." Without throwing any doubt as to the sincerity of this individual druggist the question naturally arises, are all the prescribing druggists animated by the same beautiful feelings, the sense of duty, and the tender philanthropy which, according to his own showing, actuated this Manchester member of the fraternity? The coroner, Mr. Gibson, in addressing the jury, said it was

clear that the druggist "had contravened his distinct duty." He was in entire ignorance as to what was the matter with the woman, and what he gave had, according to the medical view, done more harm than good. He spoke of it being a very general practice for druggists to prescribe in this way and he had come across cases where it had been the impression in the neighbourhood that a druggist was a qualified man and where the people called him "doctor." "He hoped that the present case would be a warning to others of the chemical fraternity." When the present tendency to be obligingly lenient to all varieties of irregular practice is considered there seems little hope that the coroner's well-meant warning will be heeded.

Lead Poisoning at Mossley.

Dr. J. Healey, the medical officer of health of Mossley, has prepared a report on the water-supply and the cases of lead poisoning that have occurred. It deals with the state of things since last November and gives 41 specific cases of lead colic. It is to be forwarded to the Local Government Board.

Food Inspection on the Ship Canal.

The Ship Canal is becoming more and more important to Manchester in various ways, one being that it is the port of ingress for large supplies of food. It is important, therefore, that the population among whom it is distributed should be protected from bad or unsound food. So far this has been very imperfectly done but an inquiry has just been held as to the application of the Manchester port sanitary authority to amend an Act of 1901 so as "to assign to the port sanitary authority the powers, rights, duties, capacities, liabilities, and obligations of an urban district council" under the Public Health Act, 1875, and the Public Health Acts Amendment Act, 1890, relating to unsound food. The clerk, Mr. Holmes, said the port authority thought that the best way to prevent unsound food from coming into the country was by examining it. So far it has been supposed to be inspected by the local authorities along the port but it was not done very well, so that large quantities of more or less injurious food got into the country and first of all into the Stretford district. It is not a very easy thing to arrange, for if the food has been unloaded it is beyond the authority of the port. The inspector, Dr. R. J. Reece, said that no doubt if they could deal with food in bulk before it was distributed the work would be lessened and more completely done, but it was a very difficult thing to examine food in bulk on board ship. It was only in the process of unloading that the authority could deal with these things. The result of the inquiry has not yet become known but it is desirable that the protection against unsound food should be strengthened.

Death of a "Human Bullet."

We have all presumably some remains of barbarism in our tastes and dispositions, for it is difficult otherwise to account for the fascination which brings crowds to exhibitions where danger to the performer is the chief source of interest. This was illustrated last week at the "Ardwick Empire," when a young gymnast, Arthur Baxter, while attempting to qualify as understudy to "Signor Castini," fell and was so injured as to die at the infirmary a day or two afterwards. It seems that "Signor Castini" is shot from a cannon on the stage to a trapeze above the auditorium, and while trying to do this Baxter fell and so met his death. A good deal is said about the physical deterioration of our race going on in some sections of the people, but even that is a slight evil compared with the mental and moral debasement resulting from performances such as these. The country requires sound minds in sound bodies and not degenerates in both. One need not be a Puritan of the type of those whose objection to bull-baiting was not that it hurt the bull but because it gave pleasure to the spectators, to feel strongly that such exhibitions should be disallowed.

April 10th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Sanitary Matters at Abertillery.

IN a report upon the sanitary condition of the Abertillery (Mon.) urban district Dr. S. W. Wheaton of the Local Government Board recommends the local authority to combine with other districts and to appoint a medical officer of health who shall devote his whole time to the duties. He also advises an improved water-supply, increased isolation hospital accommodation, the provision of a small-pox hospital, and further recommends that a public abattoir should be provided and that the by-laws relating to new streets and buildings should be revised.

Dangerous Shell fish.

At a meeting of the St. Germans (Cornwall) rural district council, held on April 5th, complaints were received in reference to the condition of the cockles taken from St. John's Lake, and the council was requested to prohibit the taking of shell-fish from the lake. The medical officer of health stated that the cockles from that source were impregnated with sewage and unfit for human consumption. It was stated by the clerk that the council had no power to prevent the taking of shell-fish from the lake but could prohibit them from being sold in the area of the rural district, and it was decided to issue notices warning the inhabitants of the danger of eating such shell-fish.

"Miners' Phthisis" in Cornwall.

At a meeting of the Redruth board of guardians held on April 6th it was reported that there were 1415 paupers on the books of the guardians and that of this number 78 women (with 230 children dependent upon them) received relief in consequence of the death of their husbands from "miners' phthisis." It was stated that nine out of every ten cases of the disease had been contracted abroad and the returns showed that one-quarter of the pauperism of the Redruth union was due to "miners' phthisis."

Bristol Eye Dispensary.

The annual meeting of the subscribers to this institution was held on April 6th. The medical report showed that 5056 patients had been treated during the past year. The financial statement was satisfactory. It was stated that the examination of school children's eyes formed a considerable part of the work of the honorary staff and it was suggested that the education committee should pay some medical man who could undertake such work.

Diphtheria in Hereford.

During the first week of December last there began an outbreak of diphtheria in the city of Hereford which only now appears to be subsiding. Over 100 cases have been notified and there have been 12 deaths, though no fatal case has been registered since the middle of February. One of the pavilions of the iron isolation hospital was used to isolate a large number of the cases and owing to a recrudescence of the epidemic three weeks ago other stringent measures were taken by the sanitary committee of the town council. These included an instruction to the medical superintendent of the isolation hospital (Dr. E. H. Collens) to call at the house occupied by each notified case and to take material for bacteriological examination from the throats of each resident "contact." The wife of the sanitary inspector was appointed, at a salary of three guineas weekly to spray each day the throats and noses of all the "contacts." Antitoxin has been supplied during the epidemic by the corporation free of charge and bacteriological examinations have also been been made for diagnostic purposes without charge to the practitioners concerned. It will be apparent that there was no necessity to send cases of diphtheria occurring in the city to the general hospital, for when the outbreak began to assume alarming proportions the sanitary committee very properly decided to open a pavilion at the isolation hospital for the reception of diphtheria patients. As might be expected, however, it was impossible to restrict the epidemic to the city and a few cases occurred within the area of the rural district. The rural district council has recently erected a permanent hospital for small-pox and scarlet fever patients but no provision has been made for the isolation of persons suffering from diphtheria. A condition has arisen, therefore, not at all unlike that described in THE LANCET in connexion with Bedford. At the annual meeting of the supporters of the Herefordshire General Hospital several members of the medical staff spoke in strong terms of the necessity for making extended provision in the county for the treatment of patients suffering from diphtheria. The city authorities refuse to take any but city patients into the city isolation hospital and upon several occasions country patients have been sent to the general hospital much to the embarrassment of the resident staff who, while unwilling to refuse admission to a patient requiring urgent treatment, have felt a

heavy responsibility resting upon them as regards the safety of the other patients in the hospital.

Cardiff Medical Society.

An addition has been made to the rules of the Cardiff Medical Society which will have the effect of making the medical officers of the garrisons of the district and the resident medical officers of the Cardiff Infirmary and union hospital *ex-officio* temporary members of the society without subscription. They will enjoy all the privileges of ordinary members except the power to vote.

April 9th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Appointment of Assistant Gynæcologists to the Edinburgh Royal Infirmary.

THE managers of the Royal Infirmary, Edinburgh, have appointed Dr. James Haig Ferguson and Dr. William Fordyce assistant gynæcologists to the infirmary. The two gentlemen selected have occupied the posts of gynæcologist and assistant gynæcologist respectively to Leith Hospital.

Proposed Presentation to Sir Henry D. Littlejohn.

As was mentioned in THE LANCET of March 31st, p. 937, a movement is on foot in Edinburgh to mark Sir Henry Littlejohn's long connexion with the Edinburgh School. A meeting has been held and a committee formed for the purpose indicated. It is proposed to present Sir Henry Littlejohn with his portrait by a leading artist and friends and former pupils will, it is expected, readily participate in the scheme. The secretary to the committee is Dr. Francis D. Boyd, Manor-place, Edinburgh.

The Direct Representative for Scotland on the General Medical Council.

Dr. William Bruce, who has represented Scotland for many years on the General Medical Council, intimated some time ago that he would again place his services at the disposal of his brethren in Scotland. In view of his intention to do so it was well that he made the intimation, for the rumour was going round that he was not to seek re-election. It is understood that some of those who opposed him at the last election are taking steps to insure his having to fight for his seat at the forthcoming election.

Glasgow Hospital Sunday Fund.

The report for 1905 of the Glasgow Hospital Sunday Fund has just been issued. It states that the number of churches contributing to the fund during the year was 402, as compared with 389 in the previous year. The total income of the fund, including donations and bank interest, amounted to £4830 14*s.* 11*d.*, showing an increase of £29 6*s.* 2*d.* on last year. The sum set aside for the infirmaries was £4560 and the same course was followed in making the division as in the previous years—namely, in proportion to the number of fully occupied beds in each infirmary. According to this arrangement the Royal Infirmary got £2194 9*s.* 8*d.*, the Western Infirmary £1719 14*s.* 10*d.*, and the Victoria Infirmary £645 15*s.* 6*d.* After meeting the working expenses there is a balance of £8 15*s.* 10*d.* to be carried forward to next year.

A University Degree in Pharmacy.

At the half-yearly meeting of the general council of the University of Glasgow some discussion took place on the institution of the degree of Bachelor of Science in Pharmacy. In one of the clauses of the ordinance it has been laid down that all candidates for the proposed degree must "already be chemists and druggists registered under the Pharmacy Acts, 1852 and 1868." By some members of the council it was thought to be undesirable that membership of the Pharmaceutical Society should be made an essential preliminary to receiving the proposed degree; on the other hand, as pointed out by Dr. McVail, it seemed advisable for reasons of discipline that those who got this degree should be members, in the meantime at any rate, of the Pharmaceutical Society. On a division by a small majority the clause as it stood in the ordinance was approved.

The Care of Epileptics.

At the monthly meeting of the Glasgow parish council and district lunacy board a motion was brought forward, "That a committee be appointed to inquire as to the number of sane poor epileptics in Glasgow, and further to inquire and report as to cost of land and buildings for the purpose of establishing a colony for epileptics." After some discussion the motion was carried by a large majority and the matter was referred to a committee for consideration and report.

Glasgow Cancer Hospital.

At the annual meeting of the subscribers to this hospital reference was made to the proposed reconstruction and extension of the hospital. The directors have now in hand £9000 and the sum aimed at is £20,000. Dr. G. T. Beatson, surgeon to the hospital, pointed out that in the years during which the hospital had been in existence hundreds had been treated who would not have obtained admission to any general hospital in the city. In connexion with the rebuilding of the hospital it has been thought that it is a suitable opportunity for providing accommodation for the carrying out of research work in connexion with cancer and for this suggested department of the new hospital a separate fund has been opened and has already met with a gratifying response.

Dumbarton Poorhouse Hospital.

Recently there was an outbreak of fire at the hospital in connexion with Dumbarton poorhouse. The hospital buildings are separate from the main block of the poorhouse and at the time of the outbreak contained about 50 patients, mostly bedridden. When the fire was observed the patients were removed, fortunately without difficulty, but before the fire could be got under the roof had fallen in several places.

April 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Public Health of Belfast.

FROM the last published return of the Registrar-General the death-rate of Belfast is again the highest of the great towns. The average rate of mortality in the 76 great towns of England and Wales last week was 17 per 1000. The rate was in Edinburgh 16, London 18, Glasgow 19, Dublin 26, and Belfast 29. These figures show the very bad position occupied by Belfast and demand the careful consideration of the health authorities of that city. The chairman of the public health committee said at the meeting of the corporation on April 2nd that the public health committee "would welcome any suggestion for lessening the death-rate or improving the health of the city." The position adopted does not seem to commend itself to the citizens who regard the appeal for suggestions as a confession of weakness.

The Drainage of Belfast.

At a recent meeting of the Harbour Commissioners of Belfast attention was drawn to the cost incurred by the board in the dredging rendered necessary by the discharge of sewage into Belfast Lough. Six years ago in order to get a Bill passed the city corporation of Belfast undertook to deal in a certain specified time with the whole subject of the treatment of the sewage of Belfast. This limit was passed and yet it appears that only one-sixth of the sewage has been up to the present dealt with and that the cost incurred by the Harbour Commissioners up to March 1st of this year in dredging what the engineer reports is crude sewage matter was £2400. This cost will be continuous so long as sewage is discharged as at present into the tideway between the main drainage station and a point 1800 feet north of the same. The Harbour Commissioners have intimated to the city corporation that they will hold them accountable for the expense incurred in removing this sewage matter and they have urged the corporation on two or three occasions to press on with the work they engaged to do by the Act of 1899. On the part of the corporation it is contended that they have acquired 74 acres of land and that already by bacteria beds they had dealt with one-sixth of the city sewage. The problem of how to deal with the sewage of a large city like Belfast discharged into a tidal lough is a difficult one. Some think the only course is to take the sewage away down to the mouth of the lough and to discharge it at a place there called Blackhead, just as the city of Chicago, which used to discharge its sewage into Lake Michigan (which in this way became an open sewer as Belfast Lough is at present), now carries it over a distance of 34 miles into a branch of the Illinois River at a cost of

£37,000,000. The objection to such a method is the cost. In these circumstances the only alternative is to try to purify the sewage by bacteria beds before it enters the Lough; whether such a plan will really succeed or whether it is suited to a great city like Belfast has still to be proved.

Ulster Hospital for Women and Children.

At the annual meeting of the friends of the above hospital held on April 5th it was reported that there were 216 intern cases in the children's wards and 2386 extern cases, of whom 594 were ophthalmic. In the women's department there were 81 intern cases and 623 extern cases. Seven cases were admitted to the maternity ward and there were 165 extern labour cases attended by the nurse. The total number of patients to whom the hospital afforded relief in 1905 was 3478, an increase of 158 over 1904. Dr. Howard Stevenson has been elected a member of the medical staff in place of Dr. J. St. Clair Boyd, resigned. The total income for the past year was £863 7*s.* 5*d.* and the expenditure was £1128 18*s.* 11½*d.*, showing a deficit for 12 months of £265 11*s.* 6½*d.*, equal to about £22 per month. It required £94 per month last year to carry on the hospital, while the total income from all sources was £72 per month, so that more income is needed. Many friends of the charity think that the time has come when a new building will have to be erected for the hospital.

Royal College of Surgeons in Ireland: Election of Examiners.

A meeting of Fellows will be held on Tuesday, May 1st, at 4.30 P.M., pursuant to the provisions of the supplemental charter, for the election of examiners. Graduates of any University which may be from time to time recognised by the College shall be eligible for election as examiners in the subjects of general education. All the other examiners shall be Fellows or Licentiates of the College or professors or lecturers in any school of medicine recognised by the College. Candidates are requested to lodge their applications in writing with the Registrar, at the College, on or before Tuesday, April 24th, at 10 A.M.

April 11th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

First-aid Dressings.

THE Minister of War has just sent out a circular forbidding the use of an impermeable layer of tissue in the packets of first-aid dressings which are served out to every soldier, except as a protective covering for the packet itself. In consequence, all packets of dressings made up since the issue of the circular have been modified in accordance with its terms. As regards those at present in store, it is not, of course, possible to remove the sheet of gutta-percha tissue which they contain, so the packets have all been marked with a notice to the effect that this tissue is not to be used. Army medical officers have been instructed to suppress the impermeable tissue in the packets which they use for instruction, and all hospital orderlies and regimental stretcher-bearers are to be told of the dangers which may accrue from the dressing of a gunshot wound with an impermeable dressing.

The Treatment of the Tuberculous by "Recalcification."

At a meeting of the Hospitals Medical Society held on March 23rd M. Paul Ferrier read an account of a new treatment which he had tried in cases of tuberculosis. He considers that nature employs the same process whether she is building up the skeleton and the teeth or is bringing about spontaneous cure in a tuberculous patient. This process is calcification and accordingly M. Ferrier determined to "calcify" his tuberculous patients. Calcification does not simply mean the administration of salts of lime such as the carbonate or the tribasic phosphate, however useful they may be. The physician must also attend to the numerous causes which prevent the proper assimilation of the lime or which produce its elimination. Such causes are mainly dietetic errors, starting with the absorption of acids which are not already saturated with lime. By the use of sodium chloride the physician can promote the secretion of hydrochloric acid in the gastric juice and so improve digestion. In addition to this patients who do not improve upon a carefully regulated diet with sodium chloride should also be given calcium chloride. If then they do not begin to improve some other error in the digestive process should be sought for. Ordinary hygienic measures must by no means be neglected.

Yellow Glasses.

At a meeting of the Academy of Medicine held on March 27th M. Motais said that with a view to protect sensitive eyes from the light he had been in the habit of using for the past 15 years glasses slightly tinged with an orange yellow. These glasses give a remarkable effect of light. The sky and other objects seen are illuminated with warm tones very agreeable to the eye and besides this light effect the glasses produce a very calming effect, provided that their depth of tint is duly proportioned to the intensity of the light source or to the retinal hyperæsthesia. These yellow glasses are especially valuable when the visual acuity of patients is very enfeebled, as in cases of retinitis, choroiditis, progressive myopia, optic atrophy, or keratitis. Patients such as these using blue or smoked glasses do not see at all. With the yellow glasses, however, the amount of light admitted to the eye is scarcely, if at all, diminished. The double action which yellow glasses seem to possess—namely, of admitting more light and of soothing the eye—which is contradictory to all appearances, is explained by the fact that these glasses suppress the chemical rays of light.

Hydro-electric Baths in Various Cardio-vascular Affections.

M. Albert Weil and M. Mougeot have been studying the action of a hydro-electric bath of triphase alternating currents in a certain number of cases of heart disease. In three patients the investigation was very complete and included observations on the frequency of the pulse, the arterial and arterio-capillary tension, tracings both of the radial pulse and the capillary pulse, and of the area occupied by the shadow of the heart as observed by orthodiagraphy before and after the administration of the bath. On March 28th M. Weil and M. Mougeot communicated an account of their researches to the Therapeutical Society and the chief points were as follows. There was a notable fall in the arterio-capillary pressure. Three times out of four there was a notable fall in the arterial pressure which, however, remained constant in the fourth experiment. The radial pulse-tracing shows definite modifications—namely, a rise in the amplitude of the systolic wave, an accentuation or appearance of the elastic arterial wave, and an accentuation of the dicrotic wave. There is no increase in the amplitude of the capillary pulse. The cardiac area as measured by orthodiagraphy undergoes a remarkable diminution when the heart is dilated. The observers concluded that the triphase current bath brings about a diminution of the arterial resistance and favours the emptying of the heart and that by its administration it can be made a valuable treatment for hypertension.

Salicylate of Sodium as a Preventive of Erysipelas.

At a meeting of the Society of Biology held on March 24th M. Lortat Jacob and M. Vitry communicated a paper in which they stated that in three series of experiments they had been able to show that the intravenous injection of small and repeated doses of salicylate of sodium raised the resistance of the rabbit to consecutive inoculations of a culture of streptococci. One rabbit inoculated with a highly virulent culture after being treated with salicylate died at the end of five days, although the control died in three days. With a culture of feeble virulence the animal treated with the salicylate of sodium presented no local lesion at all, although the controls were attacked with erysipelas.

The English Hospital at Nice.

On March 19th the English hospital at Nice was opened. This hospital has been built as a memorial of Queen Victoria and is called the Queen Victoria Memorial Hospital. It consists of two portions. One is at the side of the road to Villefranche and the other is on the top of a hill in a pine wood. In this latter will be isolated hospital patients who are suffering from contagious maladies. The approach to this building is by a magnificent staircase cut out of the rock by blasting. It is composed of a basement, a ground floor, and a first floor, and contains 20 beds. The other building will be able to contain 30 patients and has a *dépendance* consisting of a small block for the staff. The ceremony was presided over by Princess Christian of Schleswig-Holstein, sister of King Edward VII., who was accompanied by Princess Alexandra of Hohenlohe-Langenburg and

various political personages. The trumpeters of the 24th Battalion of Chasseurs sounded "God Save the King" on the arrival of the sister of the King of England and the Bishop of Gibraltar then said prayers, and various speeches were made. After this, Princess Christian having opened the chief gate with a golden key went through the buildings and expressed her admiration. She also authorised the committee to consider her as the honorary president.

The Risks of Opium.

The Naval Minister is taking steps to combat the dangers due to the consumption of opium in towns which are naval stations. In company with the Minister of the Interior he is inviting the naval authorities, together with the local administrative authorities, to prohibit the sale of opium except for pharmaceutical purposes and to shut up opium smoking dens. For some years past these latter establishments have increased in ports to an alarming extent and opium smokers are becoming more and more numerous.

April 9th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Treatment of Exophthalmic Goitre.

Dr. Hirschl and Dr. Stegmann have recently treated several patients suffering from exophthalmic goitre by means of the x rays. The chief symptoms complained of by the patients, who were mostly women, were palpitation, profuse sweating or suppressed sweating, exophthalmos, and very often loss of flesh. The thyroid gland was in all cases enlarged and often formed hard parenchymatous masses on one or both sides of the throat. The fingers were slightly tremulous and thereby incapacitated for such occupations as fine sewing or watchmaker's work. The treatment at first consisted in the administration of tablets each containing five grains of thyroid gland, but as there was no beneficial effect whatever three patients were submitted to the action of the x rays. Each sitting was of 20 minutes' duration and each patient had four sittings at intervals of about three weeks. They all showed a gain in weight, amounting to some 10 pounds in two months, a reduction of the pulse-rate, a decrease of the palpitation, and an improvement in the metabolic and psychical conditions, so that they felt themselves almost in perfect health. The perspiration was not much affected by the rays. Apart from its harmlessness, this method of treatment offers great advantages over any other internal or surgical procedure, being easily applied and rapid in its action, so that extensive trials of it will be made in the hospitals.

The Study of Criminology.

A society consisting of numerous medical practitioners, barristers, judges, and other gentlemen engaged in the medical or legal professions has recently been formed here with the object of making a scientific study of the relations existing between crime and pathology. By investigating the psychical conditions of criminals it is hoped that useful information may be elicited with regard to the motives inciting to crime and also with regard to the methods of repressing it. Discussions, publications, demonstrations, and lectures will attract the attention of the general public, and numerous professors of forensic medicine as well as of civil law have promised their coöperation in this novel undertaking.

Health of Vienna.

The report for the first quarter of 1906 has just been issued by the medical officer of health of Vienna. It appears that the present year has so far been very fortunate as regards infectious diseases, the numbers for measles, scarlet fever, diphtheria, and influenza having declined as compared with the corresponding figures for the last five years, but whooping-cough and typhoid fever have increased in frequency and virulence. Not a single case of small-pox was reported, a fact which can never be too often repeated for the enlightenment of the "conscientious objector." Amongst the deaths 19 per cent. were due to pulmonary tuberculosis and 5 per cent. to neoplasmata, showing a decrease of 1 per cent. for the former and an increase of 0·75 per cent. for the latter as compared with 1901. The mortality for this quarter was 18·3 per 1000, or exactly the same as in the last two years. This constancy, in spite of the reduction of tuberculosis, is due mostly to catarrhal disease of the intestines which has been rather frequent and severe, mainly amongst infants. There was a solitary case of epidemic cerebro-spinal meningitis, which proved fatal.

Regulations against Spitting.

Vigorous action against the spitting nuisance is being taken by the administrative authorities of the railways. In every compartment of every railway carriage, tramcar, and omnibus a board is to be displayed conspicuously announcing that persons who spit on the floor or sides of the vehicle are liable either to a fine varying from 2 to 200 kronen (from 1*s.* 8*d.* to £8) or to imprisonment for a period not exceeding 14 days. Especially in smoking cars the nuisance created by spitting is sometimes considerable and all experiments with spittoons, &c., have as yet failed to teach the average traveller better manners. The new regulations may be complied with for some time but the *laisser faire* of the South Germans will probably in the long run lead to a neglect of hygienic injunctions.

A New Sulphur Spring near Vienna.

In Vöslau, about 20 miles from Vienna, a cold sulphur spring has been discovered which will soon be used for medicinal purposes. The village is famous for its mild thermal waters which possess a high degree of radio-activity. It is about two miles from Baden, a well-known bathing place, where there are seven hot sulphur springs. As the geological conditions of the two places are nearly identical, sulphur water has been sought for in Vöslau every now and then and at last with success. The new spring comes from tertiary sands, has a temperature of 9° C., and contains large quantities of sulphuretted hydrogen and carbon dioxide. The constituents of the water have not yet been exactly determined but its radio-activity has been proved by the presence of an emanation which could be made to act on fluorescent screens. The therapeutic value of the spring remains to be found by experience. Whilst the hot baths of Baden are employed in rheumatic affections of all kinds the cold sulphur water may act as a cathartic to clear the intestinal canal and to expel metallic poisons, such as mercury, lead, or arsenic, from the system.

Statistics of Vienna Hospitals.

The statistical figures for the Government hospitals, which comprise all hospitals except the children's hospitals and two private lying-in homes, have now been published and deal with the years 1901 and 1902. The documents relating to the erection of the new General Hospital, which was planned at that time, are given in full, but as the plans have undergone several changes these records are now somewhat out of date. The number of in-patients in the nine large hospitals was 69,015, of whom 53,613 were discharged either recovered or much improved; 4659, or 6·5 per cent., were discharged unimproved; and 6321, or 9 per cent., died. The number of out-patients is not stated, as it is difficult to distinguish the ambulance and first-aid cases from the cases which come after discharge from the in-patient departments. In-patients and out-patients included, there were over 700,000 persons, representing 33 per cent. of the population of Vienna, who applied for advice. It would be incorrect to say that they were all of them residents in Vienna, because, in fact, many of them came from provincial districts, but the figures illustrate well the prevalence of hospital abuse and the difficult position of the general practitioner.

April 7th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Six Different Sources of Water-supply.

THE whole extent of the Turkish metropolis and its suburbs are supplied with water from six totally different sources. Some of these sources are perfectly pure and remain constantly free from every contamination. To such belongs, in the first order, the water of springs, wells, and fountain-heads, which is distributed as a rule in barrels or sold in sealed bottles. This water, being rather expensive, is accessible only to the more or less well-to-do classes of the population. The pure and cold water of the well-known Alem-Dagh springs on the Asiatic coast is frequently sold at the rate of 40 paras (2*d.*) for a bottle of about 20 ounces capacity. Another source of excellent water is that of Kiat-Hané, near the origin of the Golden Horn

(the so-called Sweet Waters of Europe), a favourite place of excursion during the warm spring and summer days. It is from this source that the fountains constructed by the present Sultan, Abdul-Hamid Khan II., in Péra and Galata get their supply of ever pure and fresh water. These fountains are a real boon to the bulk of the population who are allowed to draw from them at any time of day or night free of charge. The remaining four sources of water-supply are not free from contamination. Such are the waters of the so-called "bindes" of Kirkchesmé and of Halkali, the supply of the reservoirs of Dercos, the "bindes" of Anadol-Hissar, known under the name of the waters of Elmali, and lastly, the water-supply furnished by the ancient Roman method of house cisterns. This last supply is altogether objectionable, as the water in cisterns always remains stationary and is gathered from the house roofs which are frequently very dirty. The impurities in this rain water accumulate at the bottom of the reservoirs and are often, as can easily be imagined, the source of various diseases. I had occasion to examine the accumulations under the microscope and was able to find all sorts of organisms. I have also on several occasions traced the origin of a case of typhoid fever to the drinking of cistern water. The above-mentioned "bindes" have been very much improved of late by dredging machines and extensive reparations of their reservoirs, yet their water is far from being perfectly pure. The same could be said of the water from Elmali which is distributed by the water company of Scutari and Kadikeuy (the ancient Chalcedon) on the Asiatic shore. An official analysis made lately has demonstrated that these waters are charged with considerable quantities of organic matter. The so-called Dercos water is also not drinkable and ought to be used only for cooking and other household purposes.

The Statistics of the Hamidié Hospital.

The statistics of the Hamidié Hospital have been published and they are in themselves an eloquent proof of the good work done by that charitable institution. During the seven years of its existence 7119 patients have been admitted. The number of patients who died in the hospital amounts to 283. At present there are under treatment 132 individuals. 100,140 women and children have been received in the consulting rooms during the same period of seven years.

A Case of Hydrophobia.

A Mussulman peasant who had been bitten by a rabid wolf came to Constantinople to be treated in the institute for hydrophobic patients. Before entering this institute, however, he was seized by a terrible access of violent convulsions and died.

April 4th.

Obituary.

WILLIAM ROBERT HENRY STEWART, F.R.C.S. EDIN., M.R.C.S. ENG., L.S.A. LOND.

Mr. W. R. H. Stewart, who died on March 7th, was the son of the late Mr. W. E. Stewart, a surgeon of Harley-street, and was born in 1852. He received his education at University College and at University College Hospital, and became a Member of the Royal College of Surgeons of England in 1874 and a Fellow of the Royal College of Surgeons of Edinburgh in 1878. He will always be remembered as one of the most respected of the pioneers of laryngology in this country. Working in the early days of the specialty with Sir Morell Mackenzie he became one of the surgeons to the Throat Hospital, Golden-square. Subsequently, in conjunction with some of his colleagues, he was prominent in the foundation of the London Throat Hospital, where he spent many years in active work, retiring with the position of consulting surgeon a few years ago. He was appointed aurist and later surgeon to the throat and ear department of the Great Northern Central Hospital, where his work continued to the day of his death and where his loss is most deeply felt by all his colleagues. When the Laryngological Society of London was founded in 1893 he proved himself one of the most active and prominent of its members and in the second year of its existence acted as its honorary secretary. To his efforts during its early life the society owes a large debt of gratitude, while so recently as 12 months ago the post of treasurer which he then held enabled him to contribute in an important degree to the success of the Garcia Festival, although ill-health caused his absence on the actual day. He made many valuable contributions to our columns in the literature of aural surgery and he was joint author of an excellent handbook upon the ear which ran into six editions. Mr. Stewart was one of those men who gain the real affection of their friends as well as their complete confidence. This was true both of his colleagues and of his patients. One of the former who worked for many years by his side at the hospital never saw him hasty or unkind to the most troublesome out-patient and his constant thought for the interests and the feelings of others won for him a very widespread and a very profound regard from those who came to him from all the various classes of the community. His surgical judgment, based upon a very large experience which included some years of general surgical work, was remarkably acute and the profession has lost in him a trustworthy and valuable member.

HENRY WILLIAM HARTFORD, L.R.C.P., L.R.C.S. IREL.

Mr. H. W. Hartford, who died on March 30th at his residence in Christchurch, Hampshire, was a practitioner known and respected over a very wide area. He was born at Rose Court, Portarlington, Queen's County, Ireland, in 1853, and was the son of Captain Augustus Hartford, of the 59th Regiment. Having studied medicine he became a Licentiate of the Royal College of Physicians and the Royal College of Surgeons of Ireland in 1875 and went to Christchurch in 1877. He was for many years medical officer of one of the districts of the Christchurch union and medical officer to the workhouse. On his retirement last year, after 29 years' service, he was presented with a silver salver by the officers of the union as "a token of their esteem and in recognition of his unfailing kindness to the poor." He had also held the appointment of medical officer of health of the Lymington rural district for the past 21 years and was a member of the Christchurch town council in 1904–05. He was also a Fellow of the Institute of Public Health and a member of the British Medical Association. The funeral at Christchurch Cemetery on April 2nd was very largely attended and in the town blinds were drawn and other marks of regard shown for a townsman who had held a high place in the esteem of his fellows. The mayor and corporation of Christchurch attended the funeral, also members of the Unity Lodge of Freemasons (Ringwood) of which the deceased had been a member, and other public bodies with which he had been connected were also represented. It is a pathetic circumstance that Mr. Hartford had only survived his wife about ten days and his mortal remains were laid in the next grave. Before her marriage Mrs. Hartford lived in India and was in that country at the time of the Indian Mutiny.

JOHN JAMES WILLIAMS, M.D. ST. AND., M.R.C.S. ENG., L.S.A., J.P.

Dr. J. J. Williams died at his residence, Aberclydach, Talybont-on-Usk, South Wales, on March 31st in his eighty-fifth year. The deceased, who was the youngest son of the late Mr. Howell Williams of Brecon, received his medical education at St. George's Hospital, London, taking the qualifications of M.R.C.S. Eng. and L.S.A. in 1849 and graduating as M.D. of the University of St. Andrews in the same year. Dr. Williams had retired for some years from active work but at one time had an extensive practice and was highly esteemed in Talybont and the district. He was placed on the commission of the peace for the county of Brecon in 1862 and was for many years surgeon to the Breconshire Volunteers.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Paul Stolberg, extraordinary professor of forensic medicine in the University of Göttingen, aged 40 years.—Dr. Hermann von Hoelder, the well-known Stuttgart anthropologist, aged 86 years.—Dr. Nikolas Liubimoff, professor of pathological anatomy in Kazan.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.

The following gentlemen passed the First Examination of the Board at the April quarterly meeting of the examiners in the subjects indicated :—

Chemistry and Physics.—Harold George Alexander, Middlesex Hospital; Gordon Silvanus Ashby, St. Thomas's Hospital; James Alfred Ayton Boddy, Owens College, Manchester; Thomas Rufus Bowen, East London Technical College; Gordon Normanby Brandon, St. Thomas's Hospital; Arthur Brodie Hamilton Bridges, St. Thomas's Hospital; John Wakefield Elliott, University College, Bristol; John Stanley Ellis, London Hospital; Hugh Arthur Evans, Westminster Hospital; Norman Ernest Farr, St. Paul's School; Harry Leroy Satterlee Griffiths, University College, Cardiff; Edward Wilson Hall, Middlesex Hospital; William Henry Hooton, Yorkshire College, Leeds; William Bertram Lawrence, University College, Cardiff; David Charles Lloyd, Liverpool University and Guy's Hospital; Valentine Cleeve Martyn, St. Mary's Hospital; Charles Noon, St. Bartholomew's Hospital; Christopher Percy Oswald, Birkbeck College; Adrian Charles Paterson, St. Thomas's Hospital; James Powell, University College, Cardiff; Charles Edward Reckitt, Guy's Hospital; Charleton Edmund Rice, Technical College, Derby; Wilfrid Ralph Sadler, St. Bartholomew's Hospital; John Milne Smith, St. Mary's Hospital; Harold Gordon Spain, Guy's Hospital; Hugh Stott, Sheffield and University College; Carl Johan Valfrid Swahnberg, Belfast and Charing Cross Hospital; Harold John Austin Tootal, St. Mary's Hospital; Walter Palmer Vicary, Guy's Hospital; Charles Grimshaw Waddington, Technical College, Bradford; John Ernest Price Watts, Westminster Hospital; Hugh Wetherbee, London Hospital, and Griffiths Ellis Williams, London Hospital.

Chemistry.—Hugh Rimington, St. Bartholomew's Hospital.

Elementary Biology.—Harold George Alexander, Middlesex Hospital; Sidney Vere Appleyard, St. Thomas's Hospital; Thomas Ewart Ashley, University College, Bristol; George Arthur Batchelor, St. Mary's Hospital; Harold James Beresford-Heelas, Plymouth Technical School; Isaac Barnet Bernstein, Yorkshire College, Leeds; Fleetwood Stirlinge Digby Berry, Guy's Hospital; Henry George Barham Blackman, Guy's Hospital; Thomas Cresswell Brentnall, Owens College, Manchester; Arthur Brodie Hamilton Bridges, St. Thomas's Hospital; Robert Trail Brotchie, London Hospital; James Jackson Brown, London Hospital; Lionel Charles William Cane, Guy's Hospital; William Edgar Carter, Yorkshire College, Leeds; Herbert Edward Cockcroft, Owens College, Manchester; William Herne Cornelius, Birkbeck College; James Cowan, Owens College, Manchester; George Leslie Curnock, Birkbeck College; André Constant Labauve d'Arifat, Guy's Hospital; William Townsend Dobson, University College, Cardiff; Henry William Doll, Guy's Hospital; Hugh Arthur Evans, Westminster Hospital; Sandbrook Falkner, London Hospital; Claude Emery Freedman, University College, Sheffield; Aubrey Scott Gillett, King's College Hospital; Ferris Nelson Grant, London Hospital; Harry Leroy Satterlee Griffiths, University College, Cardiff; Edward Wilson Hall, Middlesex Hospital; Newcome Herbert Harrison, Charing Cross Hospital; David Havard, University College, Cardiff; Alan Ashton Henderson, University College; Arthur Martin Henry, Guy's Hospital; Harold Howard Hiley, University College, Bristol; Arthur Stanley Hoole, London Hospital; William Henry Hooton, Yorkshire College, Leeds; Cecil Norman Hutt, St. Bartholomew's Hospital; Arvor Jones, University College of North Wales, Bangor; Griffith Lewis Jones, University College, Cardiff; James Evelyn Thoresby Jones, University College; Rupert Llewellyn Jones, London Hospital; George Arthur Edward Kelman, Westminster Hospital; Clifford Yule Laing, Owens College, Manchester; Colwell de Calls Winkley Langdon, Owens College, Manchester; William Morgan Langdon, Guy's Hospital; William Bertram Lawrence, University College, Cardiff; Edward Claude Linton, London Hospital; Reginald Kinloch MacGregor, St. Bartholomew's Hospital; Donald Aldridge Macpherson, Charing Cross Hospital; David MacRae, London Hospital; Horace Lloyd Mann, St. Thomas's Hospital; Samuel Marie, University College, Bristol; Godfrey Kindersley Maurice, St. Mary's Hospital; Guy Malcolm May, King's College Hospital; Albert Ernest Moore, London Hospital; Walter Cecil Murray, Charing Cross Hospital; George Nelson, Birkbeck College; Frederick Cecil Nichols, University College, Bristol; Hubert Lewis Clifford Noel, London Hospital; Charles Noon, St. Bartholomew's Hospital; Henry Locke Paddon, B.A. Oxon., St. Thomas's Hospital; Georg Natanael Palmaer, London Hospital; George Evan Henry Holt Phillips, Birkbeck College; Allan Pimm, University College; Williiam Piper, Westminster Hospital; George FitzPatrick Rigden, Westminster Hospital and King's College; Harold Osbert Salt, Guy's Hospital; Lawrence Lancaster Satow, St. Bartholomew's Hospital; Alec Linford Saul, Guy's Hospital; Henry Edwin Seargill, Yorkshire College, Leeds; Sumner Hugh Smith, King's College Hospital; Henry Lionel Hugh Steele, St. Thomas's Hospital; Harry Stobie, Birkbeck College; Maximilian Christian Wall, Guy's Hospital; Archibald Farrell Waterhouse, University College, Sheffield; Lionel Charles Watkins-Baker, University College, Bristol; John Ernest Price Watts, Westminster Hospital; Herbert White, Birkbeck College; Russell Facey Wilkinson, St. Mary's Hospital; Arthur Tudor Williams, B.A. Oxon., London Hospital; and John Wilson Williams, University College, Cardiff.

The following gentlemen passed the Second Examination :—

Anatomy and Physiology.—Richard Bernard Abraham, St Thomas's Hospital; Stanley Donovan Adam, St. Mary's Hospital; Melville Mortimer Adams, Guy's Hospital; Herbert Rowse Bastard, Guy's Hospital; Rex Carrington Brewster, London Hospital; Arthur James Brown, London Hospital; Sidney Howard Browning, Guy's Hospital; Ernest Frederic Westmore Buckell, University College; Joseph Aloysius Byrne, Victoria University, Manchester; Howard Dennis Clapham, Charing Cross Hospital; William Victor Corbett, St. Thomas's Hospital; Francis John Craddock, St. Bartholomew's Hospital; Benjamin Dale, St. George's and King's College Hospitals; Allan Dewar, St. Thomas's Hospital; Martin Joseph D'Lemos, King's College Hospital; Josiah Rowland Benjamin Dobson, B.Sc. Wales, University College, Cardiff; Robert Sydney Doran, Charing Cross Hospital; Daniel Cuthbert Druitt, Guy's Hospital; Alexander Kennedy Glen, St. Mary's Hospital; Gilbert Clement Gray, St. Bartholomew's Hospital; James Randolph Gyllencreutz, St. Thomas's Hospital; George Frederick Corsellis Harvey, London Hospital; Philip Keith Hill, Leeds University; Victor Patrick Hutchinson, Guy's Hospital; Charles William Huyssen, London Hospital; Walter Burford Johnson,* St. Thomas's Hospital; Charles Frederick Vivian Kebbell, St. Bartholomew's Hospital; Joseph Arthur Alexander Kernahan, St. Bartholomew's Hospital; Phirozshaw Jamsetji Kolaporewalla, Bombay and Guy's Hospital; Mozaffer Din Ahmed Kureishi, Punjab and King's College Hospital; Ernest MacEwan, London Hospital; Patrick Andrew MacKay, Glasgow University and St. Mary's Hospital; Samuel Parker Mort, Victoria University, Manchester; Henry Rubert Mullins, Guy's Hospital; Charles Edward Hewitt Paley, Westminster Hospital; Archibald Bruce Pettigrew, Sheffield University; Alfred Percy Phillips, St. Bartholomew's Hospital; Charles James Measburn Phillips, St. Thomas's Hospital; Clifford Crawshaw Pickles, Leeds University; Arthur Hardwicke Platt, Cambridge University and Westminster Hospital; Leslie Oswald Sheridan Poidevin, Universities of Sydney, Manchester, and Edinburgh; Mohamed Abdur Rahman, Guy's Hospital; Arthur Rhodes, Leeds University; James Freer Richardson, London Hospital; Reginald George Riches, St. Bartholomew's Hospital; Leonard Russell, King's College Hospital; Hassan Ibrahim Shahin, Cairo and Guy's Hospital; Timothy Sheehan, Cork; Walter Duckett Southern, Charing Cross Hospital; Dudley Macaulay Stone, St. Bartholomew's Hospital; Thomas William Ramsden Strode, Charing Cross Hospital; William Marshall Swan, Charing Cross Hospital; Aubrey Dean Vernon-Taylor, Guy's Hospital; Harold Eustace MacMahon Wall, St. Mary's Hospital; Gordon Reginald Ward, Westminster Hospital Leslie Ferguson Kennedy Way, St. Bartholomew's Hospital; Arthur Leonard Weakley, St. Bartholomew's Hospital; Leonard Mortin Webber, Charing Cross Hospital; Ernest William Witney, St. Thomas's Hospital; Kenneth Wolferstan, St. Bartholomew's Hospital; Charles Albert Wood, Guy's Hospital; Stanislaus Swonnel Morton Wood, Westminster Hospital; and John Francis Wilcox Wyer, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital.

* Awarded the first Begley Studentship tenable for three years.

97 candidates presented themselves for the above examination, of whom 63 were approved and 34 were referred.

The following gentlemen successfully passed the examination in Practical Pharmacy :—

Albert Malcolm Barlow, London Hospital and private; Gerald Waddington Beresford, London Hospital; Joseph Henderson Bulcock, Victoria University, Manchester; William Warner Cook, Guy's Hospital; Leonard Kingsford Cooper, University College Hospital; Paul Alfred Creux, Lausanne University and London Hospital; William Frederic Denning, B.A. Cantab., Cambridge University and London Hospital; Gurth Eager, King's College and private; Leonard Edwards, London Hospital and private; Carlton Atkinson Ellis, London Hospital and private; Frederick Charles Endean, Guy's Hospital and private; Gilbert James French, Victoria University, Manchester; Howell Woodwell Gabe, Middlesex Hospital; Eric Worsley Gandy, B.A. Cantab., Cambridge University, Westminster Hospital, and private; Francis Jervis Gordon, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Thomas Smith Harrison, Victoria University, Manchester; Jose Leighton Houlton, St. George's Hospital and private; Cyril Herbert Thomas Ilott, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Reginald William Ironside, B.A. Cantab., Cambridge University, Westminster Hospital, and private; Charles Matheson Kennedy, London Hospital and private; Thomas Harold Vessey King, St. Bartholomew's Hospital; Malcolm Leckie, Guy's Hospital; Rickard Leonard Ley, B.A. Cantab., Cambridge University and St. Mary's Hospital; Herbert Bowen Maxwell, Cambridge University and London Hospital; Edward Morgan, Guy's Hospital and private; Richard John Mould, B.A. Cantab., Cambridge University, St. Thomas's Hospital, and private; Henley Hamlyn Moyle, Guy's Hospital; Ernest Nuttall, Victoria University, Manchester; Francis William O'Connor, St. Bartholomew's Hospital; Frederic Eustace Leigh Phillips, London University and private; Jesse Haworth Roberts, B.A. Cantab., Cambridge University, King's College, and St. Bartholomew's Hospitals; Richard Pugh Rowlands, Guy's Hospital and private; William Fretson Skinner, Sheffield University; Hoyland Smith, Sheffield University, Charing Cross, and private; Herbert McLean Staley, Victoria University, Manchester, and private; Edwin Lawrance Sturdee, St. Bartholomew's Hospital; Henry Darby Thomas, Melbourne University, London Hospital, and private; Horace Ernest Humphrey Tracey, L.D.S., Guy's Hospital; Frederick Thomas Turner, King's College Hospital; Ismael Valerio, Costa Rica and Guy's Hospital; Edward Barton Cartwright White, London Hospital and private; Reginald Willan, Guy's Hospital and private; Howel Meirig Williams, Liverpool University; Francis Hugh Poughill Wills, St. Mary's Hospital; and Victor James Arnott Wilson, Liverpool University.

The following gentlemen passed the Preliminary Science Examination for the Licence in Dental Surgery :—

Chemistry and Physics.—Stammers Henry Alabaster, Technical College, Swansea; Ernest James Archer, Guy's Hospital; Horace Arthur Arkill, St. Paul's School; Robert Dudley Bell, Simon Langton School, Canterbury; Sydney Martin Bell, Simon Langton

School, Canterbury; George Rowlands Boorer, South-West Polytechnic Institute; Percivale James Burton, University College, Bristol; Cyril Allan Collis, Charing Cross Hospital; Frank Harold Edey, Technical Institute, Wandsworth; Norman Grellier, Charing Cross Hospital; Ernest Alfred Sebastian Hoare, Northern Polytechnic Institute; William Alfred James, Polytechnic Institute; Frederic Butcher Kirkman, Harris Institute, Preston; Harold Matthews Meek, Municipal School, Manchester; Samuel Stephenson Parkinson, Charing Cross Hospital; William Arthur Rees, University College, Cardiff; Augustus John Reynolds, Polytechnic Institute; Edward Spenser Sampson, Technical Institute, Wandsworth; George Thomas Sandy, Polytechnic Institute; Hubert Ernest Shepherd, Technical Institute, Wandsworth; Samuel Lewis Tresidder, Middlesex Hospital; Horace Victor Waddington, Technal College, Bradford; and Reginald Wildblood Ward, Holt School of Science, Birkenhead.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen having passed the necessary examinations and having conformed to the by-laws and regulations have been admitted Members of the College and have received their diplomas:—

James Alane Coupland, Leeds University; and Arthur Walker, Cambridge University and Guy's Hospital.

Licences in Dental Surgery were granted to the following gentlemen:—

William Ryding Bennette, Liverpool University; and Randolph Henry Mills, Charing Cross and Royal Dental Hospitals.

UNIVERSITY OF GLASGOW.—The following have passed the first professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (B., Botany; Z., Zoology; P., Physics; and C., Chemistry):—

Alexander John Archibald (Z., P.), Charles Auld (B., Z.), Robert Brown Bain (Z.), Arthur Munby Bayne (P.*), Emile Augustine Cameron Beard (P., C.), Charles Stewart Black (C.), John Broadfoot (Z., P., C.), James Stevenson Brown (P.), James Buchanan (Z., C.), Carl Joseph Barrett Buchheim (P.,* C.), James Alexander Stewart Burges (Z., C.), Thomas Simpson Campbell (Z., P.), William George Clark, (Z., C.) James Cook (Coalburn), (C.), James Headrick Coulter (B., C.), Robert Hunter Deans (Z., C.), James Thomson Dick (Z.,* C.), Donald Downie (P., C.), Peter Drummond (B., Z., P.), Robert Drummond (Z., C.), Alexander Dunlop (Z.), James Dunlop, M.A. (Z., C.*), William Deanburn Dunlop (Z., C.), Philip Figdor (P., C.), Andrew Scobie Findlay (Z., C.), James Findlay (P.), Alexander Fraser (Z., C.), Thomas Lochhead Fraser (B., Z.), Robert Gale (P.), Nicolas Gebbie (Z., C.), William Ernest Gemmell (C.), Robert Gilchrist (Z., C.), Edward George Glover (B., Z.*), John Gray (B., Z.), Albert William Gregorson (P., C.), Allan Byars Hamilton (Z., C.*), James Hendry (Z.*), William Hunter Howat (Z.), William Howie (P., C.), James Jack (Z.), Neil Archibald MacDonald Johnson (B.), Thomas Joseph Kirk (P.), Crawford Lundie (B., Z.), Donald Christopher Macdonald (Z., C.), Malcolm Angus Macdonald (Z., C.*), William Macewen (Z., C.), Alastir Macintyre (Z., P., C.), Donald M'Intyre (P., C.), Balfour M'Kean (Z.), Thomas Jones Mackie (Z.,* C.), Thomas Mackinlay (C.), Murdo M'Kinnon (C.), Andrew Bruce Maclean (C.), Campbell Macmillan (Z., C.), John Park Mathie (B., P.), Donald Meek (P.), Angus Millar (C.), John Mitchell (Z., C.), John M'Intosh Morgan (P., C.), Andrew Ross Muir (Z., C.), Findlay Murchie (Z.), Frederick Lewis Napier (P., C.), Charles Mill Nicol (B., P.), Richard Reid Kirkwood Paton (B., Z., P.), Arthur Stanley Richmond (Z., C.), John Robertson (B., P., C.), Alexander Forbes Ross (B., Z., P.), Joseph Henry Napoleon Felix Savy (Z., C.), James M'Alpine Scott (Z., C.), John Livingstone Scott (B.), John M'Naught Scott, M.A. (Z., C.), James David Speid Sinclair (B., Z.), James Stewart Somerville (C.), Malcolm Sommerville (Z.), George Rae Spence (Z.), John Stewart (Z., C.), Thomas Louis Grenet Stewart (B., Z., P.), Gilbert Innes Strachan (Z.), Charles Lindsay Sutherland (Z., C.*), William Taylor (Z., C.), Joseph Johnston Townley (C.), Charles Ferries Troup (Z.), Charles Hermann Wagner (C.), James Douglas Walker (Z., C.), John Cuthbertson Walker (B.), Harold Edward Whittingham (Z.*), Herbert Matthew Williamson (B.*), George Jackson Wilson (Z.), and John Youngson Wood (P.*).

Women.—Marie Alexina Annette Beard (P., C.), Louisa Emma Dodge (P., C.), Florence Ann Gallagher (P., C.), Agnes Mary M'Michael (P.,* C.), Margaret Muir (B., Z.), Ellen Brown Orr (P.,* C.), Mary Amelia Pilliet (P., C.), Florence Elizabeth Sexton (P.,* C.), and Jemima Wallace (Z.).

The following have passed the second professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (A., Anatomy; P., Physiology; and M., Materia Medica and Therapeutics):—

John Andrew Aitken (M.), David Anderson (A., P.), William Anderson (A., P., M.), Thomas Archibald (A., P.), William Hunter Stirling Armstrong (A., P.), John Atkinson (A., P., M.), William Barr (P., M.), John Blakeley (A., P.), Robert Rankin Bow (A., P., M.*), John Lindsay Boyd (A., P.), William Barrie Brownlie (A., P.), Hector M'Kay Calder (A., P.), John Cameron (P.), James Carrick A., P., M.), Donald Clark (A.), Donald James Clark (P.), Alexander Beck Cluckie (P., M.), John Humphrey James Victor Coats (M.), James Cook (Partick) (A., P.), John Cruickshank (A.,* P.,* M.*), Neilson Davie (A., P., M.), Walter Dawson (P.), James Cowie Dick (P., M.), Arthur Drummond Downes, M.A. (M.*), Thomas London Fleming (A., P.), Thomas Scott Forrest (P.), William Leonard Forsyth (A., P.), Robert Dunlop Black Frew (P., M.), David Gibson (A.), Walter Gilmour (A., P., M.), Alexander Thomas Arthur Gourlay (P.), Edward O'Driscoll Graham (P., M.), John Vincent Grant (A.), James Dow Gray (A.), David Hamilton (P., M.), Josiah Stranaghan Harbinson (A., P.), Michael Harkin (M.), Thomas Harkin (A.), John Mitchell Henderson (M.), John M'Lean Hendry (A., P.), Benjamin Hutchison (A., P.*), Alexander Mills Kennedy (A., M.), Charles Lawson Kerr (M.), John Lang (A., P.), William Leitch (M.), Frank Crombie Macaulay (A., P., M.*), Robert M'Carlie (A.), Joseph Glaister M'Cutcheon (A., M.), Neil MacInnes, M.A. (A., M.), Joseph Bogue Mackay (M.), William M'Kendrick (P., M.), Thomas Cooper Mackenzie (A.), Francis William Mackichan (A.), William Campbell Mackie (P., M.), James Walter M'Leod (A., P.*), James M'Millan M'Millan (P., M.), John MacMillan (A., P.), Peter Russell M'Naught (A., P., M.), Donald Irvine M'Naughtan (P.), William Matheson (A., P.), Kenneth Chisholm Middlemiss (A., P.), Robert M'Kenzie Morison, M.A. (A., P., M.), John Mowat (M.), William Aikman Muir (A., P.*), Archibald Campbell Munro (A., P., M.), Charles Sutherland M'Kay Murison (A., P.), Albert Rutherford Paterson (A., P.,* M.), Adam Patrick, M.A. (A., P., M.*), Ralph Montgomery Fullarton Picken, B.Sc. (M.), David Purdie (P., M.), Murray Purvis (A., P., M.), Richard Rae (A., P.), Henry Nimmo Rankin (A.), Nicol M'Nicoll Rankin (A., P.*), Hugo Given Robertson (P.), Thomas David Coulthard Ross (M.), Neil Campbell Scott (A.,* P., M.), James Brown Sim (A., P.), Alexander Hunter Sinclair (P.), James John Sinclair (A.), James Alexander Stenhouse (A., M.), William Stevenson (P.), Donald Stewart (P., M.), Edward Ernest Stewart (M.), John Stewart, M.A. (A.*), Hugh Cochrane Storrie (A., P.,* M.), David Taylor (A., P.), Walter Telfer (M.), John Archibald Thomson (A., P.), John Sheddon Thomson (P.*), Robert Macnair Walker (A.,* P.*), Thomas Charles Dalrymple Watt (M.), John Weir (M.), David M'Gruther Wilson (P., M.), John Alexander Wilson (P.), and Hugh Young (P.).

Women.—Margaret Baird Sproul Darroch (A., P.), Mabel Foley (A., P.,* M.), Margaret Gardner Forrest (M.), Ella Smith Hill, M.A. (A.), Janet Annie Macvea (P.), Jessie Deans Rankin (P.), Winifred Margaret Ross (A., P., M.), Jessie Capie Russell (A., P.*), and Jeanie Hinshaw Stewart (A.).

The following have passed the third professional examination for the degrees of M.B. and Ch.B. in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

Wallace Wright Adamson (P., M.), Alexander Anderson (P., M.), Andrew Hamilton Arnott (M.), David Arthur, B.Sc. (P., M.), Herbert Bertram (P., M.), Robert Inglis Binning (P., M.), William Brown, M.A., B.Sc. (P., M.), James Cairncross (M.), Thomas Hay Campbell (P.,* M.), Alexander Johnston Couper (P., M.), James Robert Craig (P., M.), John Craig Crawford (M.), Charles Adolphus Crichlow (P., M.), John Alexander Doctor (P., M.), Richard John Driscoll (P.), James Dunbar (M.), Donald Duncan (P., M.), Allan Dunsmuir (M.), Leonard John Dunstone (P., M.), Alexander Wylie Eadie (P.), William Marley Elliott (P.), Archibald Fairley (P., M.), Thomas Forsyth (M.), Samuel Nicol Galbraith (P.), Berkeley Gale (P., M.), Robert Govan (P.,* M.), Henry Maxwell Granger (P., M.), Thomas Purdie Grant (P., M.), William Cooper Gunn (P., M.), Archibald Hogg (P., M.), Andrew James Hutton (P., M.), Percy James Kelly (P.), George Ligertwood (P.), Ernest Bowman Macaulay (P., M.), Alexander Tulloh Inglis Macdonald (P.), John Robert M'Gilvray (P., M.), Robert M'Inroy (P.), John Henry M'Kay (P., M.), William Anderson M'Kellar (P., M.), Allison David M'Lachlan (P., M.), Donald Cameron MacLachlan (P., M.), Arthur Norman Roy M'Neill (P., M.), John M'Vittie (P., M.), Isa Carswell Marshall (P., M.), James Hogg Martin (P.), Horatio Matthews (P., M.), William Spence Melville (P.), John Wilson Miller (P.), Thomas Miller (P.*), James Robertson Mitchell (P., M.), Hugh Morton (P., M.), Robert Charles Muir (P., M.), Patrick O'Brien (P., M.), Isaac Papiermeister (P., M.), Donald Renton (P., M.), Murdoch Mann Rodger (M.), Robert Clemens James Schlomka (P., M.), Alexander Scott (P., M.*), George Waugh Scott (P., M.), John Macgregor Smith (M.), John Steedman (P., M.), Campbell Kay Stevenson (P., M.), Matthew John Stewart (P.,* M.), Lawrence Storey (P.,* M.*), John Anderson Struthers (P., M.), John Martin Taylor (P.), Robert Scott Taylor (P., M.), Hugh Johnstone Thomson (P.), Robert Todd (P., M.), John Morris Walker (P., M.), William Barrie Watson (P., M.), Frank Ritchie Wilson (P., M.), Hugh Mundle Wilson (P., M.), Samuel Wilson, M.A. (P., M.), Thomas Winning, M.A. (P., M.), and Garabed Yeghia Yardumain (M.).

Women.—Martha MacLean Buchan (P., M.), Katharine Robina Margaret Lucas (P., M.), Jane Isabel Robertson, M.A. (P.), and Margaret Baillie Taylor (P.).

* Passed with distinction in the subjects indicated.

PUBLIC HEALTH IN THE STRAITS SETTLEMENTS.—In the year 1904 the total estimated mean population of the Straits Settlements was 595,782, while the recorded birth-rate and death-rate were respectively 25·59 and 39·0 per 1000. The principal cities are Singapore and Penang, with estimated populations of 246,495 in the former and 130,602 in the latter. Mr. D. K. McDowell, C.M.G., principal civil medical officer of the Straits Settlements, in his report for 1904 states that during that year the total numbers of cases of zymotic disease recorded in the colony, not including imported cases, were as follows. In Singapore there were 20 cases of plague (all fatal), three cases of cholera (all fatal), and 33 cases of small-pox with 11 deaths; in Penang there were three cases of small-pox with two deaths, and in the remainder of the colony there were 106 cases of small-pox with nine deaths. For some unexplained reason enteric fever and diphtheria are not tabulated as zymotic diseases; of the former there were reported in Singapore 169 cases with 69 deaths, and of the latter there were reported in Singapore 17 cases with nine deaths. In the hospitals of the colony during 1904, excluding the lunatic asylum, there were 23,462 admissions and 3836 deaths. The diseases responsible for the greatest number of admissions and deaths were as

follows: dysentery, 723 admissions and 245 deaths; malarial fever, 2694 admissions and 205 deaths; beri-beri, 2631 admissions and 879 deaths; and tubercle of the lungs, 853 admissions and 484 deaths. Of the shade temperatures recorded in Singapore in 1904 the maximum was 88·3° F. in September and the minimum was 70·9° in February; the total rainfall for the year was 104·5 inches.

DONATIONS AND BEQUESTS.—The late Mrs. E. F. Stopford Sackville has bequeathed £2000 to be invested for the purpose of providing a nurse for the sick poor of Fowey (Cornwall). She also left £100 each to the Fowey Cottage Hospital and South Devon and East Cornwall Hospital, Plymouth.—The late Mr. F. J. Horniman, M.P., has bequeathed £1000 each to the Royal Cornwall Infirmary, Truro, and the Convalescent Home, Perranporth.

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. Peter Williams, M.R.C.S. Eng., L.S.A. Lond., of Ferryside, Carmarthenshire, was recently presented with a cheque for £300, subscribed by 600 friends and patients from Carmarthen, Kidwelly, Ferryside, and the district, as a mark of their respect and esteem. Mrs. Williams was the recipient of a silver salver. The presentation was made at Mr. Williams's residence, as, owing to his weak state of health, a public meeting was dispensed with.

UNIVERSITY COLLEGE, LONDON.—Professor E. A. Minchin has resigned the Jodrell chair of zoology in view of his appointment to the new chair of protozoology in the University of London. The council will shortly proceed to fill the vacancy in the Jodrell chair of zoology thus created. The following appointments among others have been made: Professor E. H. Starling to the Jodrell chair of physiology; and Miss Agnes Robertson to the Quain studentship in biology. The title of Emeritus Professor of Zoology has been conferred upon Professor E. Ray Lankester. Liston gold medals in surgery have been awarded to Mr. Otto May and Mr. G. M. W. Hodges who were adjudged equal by the examiners. Professor J. D. Cormack has been appointed to represent the College at the quatercentenary of the University of Aberdeen.

THE TEMPERANCE COLLEGIATE ASSOCIATION.—The first annual meeting of this association, of which Professor G. Sims Woodhead is president, will be held at St. Martin's Vestry-hall, Trafalgar-square, London, on April 27th, at 7.30 P.M. Captain R. Rigg, J.P., will preside and Dr. V. H. Rutherford, M.P., and Mr. W. McAdam Eccles will address the meeting. The objects of this association are to promote and to encourage the systematic study of the temperance question in all its aspects: (*a*) by the provision of an examination board; (*b*) by the award of prizes and certificates; and (*c*) by the promotion of classes for the systematic study of temperance subjects. The association is unsectarian and non-political in character and its examinations are open to men and women of all sections of the temperance world.

MEDICO-PSYCHOLOGICAL ASSOCIATION: SOUTH-EASTERN DIVISION.—The spring meeting of this division will be held at the Herts County Asylum, Hill End, near St. Albans, on Wednesday, April 25th. The asylum and grounds will be open for inspection from 12 noon till 1.30 P.M. The general meeting will take place at 2.45 P.M. and among the proposed motions on the agenda paper are the following: (1) "The south-eastern division of the Medico-Psychological Association deems it expedient that before the new statistical tables are brought into operation the opinion of each member of the association be taken by post as to whether or not he, or she, is in favour of adopting the new tables in their present condition and that the resolution be forwarded to the general secretary of the association with the demand that such resolution be discussed at the next annual meeting;" and (2) to consider what steps should be taken by this division in view of the suggested amalgamation of the London medical societies into one association to be termed the "Royal Academy of Medicine." Dr. W. H. B. Stoddart will afterwards read a paper on Instincts—a Psycho-Physical Study in Evolution or Dissolution, and Dr. D. G. Thomson will discuss the question of the Training and Teaching of Asylum Nurses for the Certificate. The members will dine together after the meeting at the Café Monico, Piccadilly-circus, London, W., at 7.30 P.M., provided that a sufficient number agree to dine. The address of the honorary secretary is Dr. Robert Hunter Steen, City of London Asylum, near Dartford, Kent.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Forthcoming Debate on Vaccination.

SHOULD no obstacle come in the way there will be a debate on Vaccination in the House of Commons at the evening sitting on April 25th. Mr. LUPTON has given notice of his intention to move "That in the opinion of this House vaccination ought to be no longer obligatory on those who regard it as useless or dangerous."

Bill to Abolish Vivisection.

Mr. JOHN JOHNSON has brought in a Bill to provide for the total abolition of vivisection.

HOUSE OF LORDS.

THURSDAY, APRIL 5TH.

Poisons and Pharmacy Bill.

This Bill passed through Committee after a few amendments had been made.

Clause 4 relates to the application of the Bill to public companies.

The Earl of CREWE proposed to leave out the words which enabled public companies to use the description of "chemist," it having been contended by the Pharmaceutical Society that the title "chemist" should be confined to persons who had passed a particular examination and that if it could not be used by an individual who had not passed that examination it should not be used by a company even if that company employed qualified men in its shops.

This was agreed to, and it was also resolved that companies existing on April 1st which had been accustomed to use this description should be exempted from the new provision.

Ireland was exempted from the Bill.

HOUSE OF COMMONS.

THURSDAY, APRIL 5TH.

Regulation of Motor Traffic.

Sir WILLIAM COLLINS asked the Home Secretary whether he had received complaints from householders in residential parts of London as to the disturbance caused by noise, vibration, and dust owing to the rapid development of the motor traffic; whether the police had power to regulate the times and amount of motor omnibus traffic; and whether he proposed to take any action in the matter.—Mr. GLADSTONE replied: I have received several complaints but I am advised that as the law stands the police have no power to control either the times or the amount of motor omnibus traffic. Some opportunity of dealing with this matter may be found in connexion with future Bills relating to London traffic and to motor-cars.

Amounts Paid to Public Vaccinators.

Mr. CORRIE GRANT asked the President of the Local Government Board what amount was paid to public vaccinators in each of the three years, 1895, 1896, and 1897, and for the last three years respectively.—Mr. BURNS replied: The only available information as to the amount of the fees paid to public vaccinators in England and Wales during the past ten years is that contained in the report of the departmental committee on vaccination expenses, which shows the amount paid during two periods of four years, namely:—

Period.	Primary vaccinations.	Revaccinations.	Fees.
Four years ended Lady Day, 1899	1,262,576	106,783	£149,338
" " " 1903	2,016,666	1,168,058	£930,804

In addition public vaccinators received by way of grant from councils of counties and county boroughs £52,525 and £49,123 during the two periods above mentioned.

Dispensary Medical Officers in Ireland.

Mr. YOUNG asked the Chief Secretary to the Lord Lieutenant of Ireland whether he could state the number of dispensary doctors in Ireland over the age of 65 years, and whether he was aware of the number in the service from the infirmities of age incapable of efficiently discharging their duty to the poor, and would he take any steps to remedy this state of things.—Mr. BRYCE replied: The Local Government Board have no information as to the number of dispensary doctors in Ireland who are over the age of 65 years. In 1903 the Board ascertained that out of a total of 810 medical officers 77 had over 30 years' service, and it is possible that a considerable proportion of these were advanced in years. The Board has no information as regards the second part of the question but doubtless there are medical officers in the service who would retire if they were entitled to a superannuation allowance.

MONDAY, APRIL 9TH.

Vaccination Certificates.

Mr. MANSFIELD asked the President of the Local Government Board whether, in view of the attitude adopted by certain justices towards applicants for vaccination certificates, he would consider the desirability of introducing legislation which shall specify the questions which justices shall put to such applicants.—Mr. BURNS replied: I will take note of the question of my honourable friend but I doubt whether the method which he proposes would afford the best way of meeting the object he has in view.

Lymph used by Public Vaccinators.

Mr. J. W. BENN asked the President of the Local Government Board whether the lymph which had been or was now being issued by the

vaccination authorities was entirely innocent of any culture by small pox.—Mr. BURNS replied: The lymph used by public vaccinators is, I believe, almost entirely that which is issued gratuitously by the National Vaccine Establishment. I cannot speak positively as to the source of any lymph used by a public vaccinator which he has obtained elsewhere, but the Vaccination Act, 1898, requires that it shall be glycerinated lymph derived from the calf.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

EAGER, RICHARD, M.B., Ch.B. Aberd., has been appointed Assistant Medical Officer at the Devon County Asylum, Exeter.

HAY, JOHN, M.D., Ch.B. Vict., has been appointed Honorary Physician to the Hospital for Consumption and Diseases of the Chest, Liverpool.

HODGSON, STANLEY, M.D., B.S. Lond., M.R.C.S. Eng., has been appointed Medical Officer to the South Salford Division of Manchester.

LEGG, T. P., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Italian Hospital, London.

MACILRAITH, WILLIAM MACLAREN, L.R.C.P. & S. Edin., L.F.P.S. Glasg., has been appointed House Surgeon at the Royal Cornwall Infirmary, Truro.

PRICE, DAVID THOMAS, M.B. Lond., has been appointed Medical Officer for the Castle Cary District by the Wincanton (Somerset) Board of Guardians.

TONKING, JOHN HERBERT, M.B. Lond., M.R.C.S., L.R.C.P., has been appointed Public Vaccinator for Camborne (Cornwall).

WATKIN-WILLIAMS, PENROSE LANYON, L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the Bridgwater (Somerset) General Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80, with fees.

BIRMINGHAM, UNIVERSITY OF.—Assistant Lecturer on Pathology and Bacteriology. Stipend £250 per annum.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £135 per annum, with board, apartments, washing, &c.

BRITISH LYING-IN HOSPITAL.—Physician.

BROOKWOOD, NEAR WOKING, SURREY COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £120, rising to £150, with board, lodging, laundry, and attendance.

BUXTON, DERBYSHIRE, DEVONSHIRE HOSPITAL.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, and laundry.

CANTERBURY, KENT AND CANTERBURY HOSPITAL.—House Physician, unmarried. Salary £90 a year, with board and lodging.

CARNEGIE DUNFERMLINE TRUSTEES.—Assistant Medical Officer (female). Salary £200 per annum.

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.—Third Registrar (honorary).

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Assistant Surgeon.

ESSEX AND COLCHESTER GENERAL HOSPITAL.—Honorary Assistant Surgeon. Also House Surgeon. Salary £100 per annum, with board, washing, and residence.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Surgeon.

FAZAKERLEY, CITY OF LIVERPOOL INFECTIOUS DISEASES HOSPITAL.—Assistant Resident Medical Officer, unmarried. Salary £120 per annum, with board, washing, and lodging.

GARLANDS, CARLISLE, CUMBERLAND AND WESTMORLAND ASYLUM.—Junior Assistant Medical Officer. Salary £130 per annum, with board and lodging.

GARTLOCH ASYLUM, Gartcosh.—Assistant Medical Officer. Salary £125, with board and lodging.

HALIFAX, ROYAL HALIFAX INFIRMARY.—Second House Surgeon, unmarried. Salary £100 per annum, with residence, board, and washing.

HALSTEAD UNION.—Medical Officers for Fourth and Fifth Districts. Salary of former £36 per annum and fees and of latter £70 per annum and fees.

HELLINGLY, EAST SUSSEX COUNTY ASYLUM.—Second Assistant Medical Officer. Salary £200 per annum, with board, apartments, and washing.

HEMEL HEMPSTEAD, WEST HERTS INFIRMARY.—House Surgeon and Assistant Secretary, unmarried. Salary £110, with rooms, board, fire, lights, washing, and attendance.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—House Surgeon, unmarried, for six months. Salary £50, with board and residence.

HOSPITAL FOR WOMEN, Soho-square, W.—House Physician for six months. Salary £30.

HUDDERSFIELD INFIRMARY.—Junior House Surgeon. Salary £50 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—Honorary Assistant Ophthalmic Surgeon.

INGHAM INFIRMARY AND SOUTH SHIELDS AND WESTOE DISPENSARY.—Senior House Surgeon. Salary £100 per annum, with residence, board, and washing.

KNIGHTON UNION.—District Medical Officer. Salary £40 per annum.

LEEDS TUBERCULOSIS ASSOCIATION SANATORIUM, Gateforth, near Selby.—Resident Medical Officer for six months. Salary at rate of £100 per annum, with board, lodging, and washing.

LEICESTER POOR-LAW INFIRMARY.—Second Resident Assistant Medical Officer. Salary £120 per annum, with rations, apartments, and washing.

LISCARD, WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL.—House Surgeon. Salary £100, with apartments, board, and service.

LIVERPOOL INFIRMARY FOR CHILDREN.—House Surgeon. Salary £100 per annum, with board and lodging.

LIVERPOOL STANLEY HOSPITAL.—House Surgeon. Salary £60 per annum, with board, residence, and washing.

LONDON COUNTY ASYLUM, Colney Hatch, New Southgate, N.—Third Assistant Medical Officer. Salary £180 per annum, with board, apartments, and washing.

LONDON LOCK HOSPITAL, Dean-street, W.—Anæsthetist to the Male Hospital.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—House Surgeon. Salary £100, with board and residence. Also Assistant House Surgeon and Anæsthetist. Salary £60, with board and residence.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for the In-patient Department at Bowdon, Cheshire. Salary £100 per annum, with board, apartments, washing, and railway contract.

MARGATE, ROYAL SEA BATHING HOSPITAL.—Resident Surgeon, as Junior and Senior for six months each. Salary at rate of £80 and £120 per annum, with board and residence.

MONTROSE ROYAL ASYLUM, Sunnyside, Montrose.—Senior Assistant Medical Officer. Salary £200 per annum, with board, lodging, &c.

NORTHAMPTON, ST. ANDREW'S HOSPITAL FOR MENTAL DISEASES.—Assistant Medical Officer for six months. Salary 3 guineas a week, with board, lodging, and washing.

OLDHAM INFIRMARY.—Junior House Surgeon. Salary £75 per annum, with board, residence, and laundry.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Second Honorary Anæsthetist.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W.—Resident House Surgeon. Salary £200 per annum, with rooms but without board.

ST. GEORGE'S UNION INFIRMARY, Fulham-road, S.W.—Second Assistant Medical Officer. Salary £120 per annum, with board, residence, and washing.

ST. PAUL'S HOSPITAL FOR SKIN AND GENITO-URINARY DISEASES, Red Lion-square, W.C.—Honorary Assistant Surgeon and Two Casualty Out-patient Surgeons.

SHEFFIELD UNION HOSPITAL.—Resident Medical Officer. Salary £120 per annum, with apartments, rations, &c. Also Resident Assistant Medical Officer. Salary £100 per annum, with apartments, rations, &c.

SHREWSBURY, SALOP INFIRMARY.—House Surgeon, unmarried. Salary £100 per annum, with board, washing, and residence.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—Resident Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and laundry.

TOTTENHAM HOSPITAL, London, N.—House Surgeon, House Physician, Casualty Officer, all for six months. Salaries at rates of £80, £60, and £40 per annum respectively, with board, residence, and laundry.

UNIVERSITY COLLEGE, London.—Resident Medical Officer.

VIRGINIA WATER, SURREY, HOLLOWAY SANATORIUM, St. Ann's Heath.—Junior Assistant Medical Officer. Salary £175 per annum, with board, lodging, washing, &c.

WEST RIDING OF YORKSHIRE.—Assistant to County Medical Officer. Salary £250 per annum, rising to £400.

WREXHAM INFIRMARY.—Resident House Surgeon. Salary £80 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTH.

SHAW.—On April 3rd, at Eskyn-y-Coan, Laxey, Isle of Man, the wife of A. Eland Shaw, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGE.

HARMER—HEDLEY.—On the 5th of April, at St. Hilda's, Middlesbrough, by the Rev. F. H. Stock, M.A. (vicar of Middlesbrough), assisted by the Rev. G. Cobham, M.A. (vicar of Guisborough), William Douglas, youngest son of Frederick William Harmer of Cringleford, Norwich, to May (Mittie), elder daughter of John Hedley, M.D., of Cleveland Lodge, Middlesbrough. At Home, 45, Weymouth-street, W., May 22nd, 23rd, 24th, and 25th. No cards.

DEATHS.

CANNOCK.—On April 3rd, 1906, at 4, Northcote-terrace, Bradford, Charles Watkyn Cannock, L.F.P.S., L.S.A., aged 49 years.

EVANS.—On March 28th, at Zanzibar, Wilfred T. Evans, M.R.C.S., L.R.C.P.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

REFORMS IN THE SPIRIT TRADE.

THE *impasse* in the whisky trade created by Mr. Fordham's decision in the North London case is causing the distillers no little concern. The Highland distillers now propose a standard for whisky under which a mixture of equal parts of malt whisky and grain whisky would be regarded as whisky within the requirements of the Sale of Food and Drugs Act—a spirit therefore containing less malt whisky than 50 per cent. according to this standard would not be entitled to the term whisky except with a qualifying statement on the label. The suggestion has also been made by the Highland distillers that all spirit made in Scotland should be compulsorily detained in bond for three years before it is retailed to the public. A representation to that effect is to be made to the Local Government Board as well as an appeal for the appointment of a departmental committee to inquire into the whole subject, pending which inquiry all prosecutions, it is urged, should be withheld. A copy of a manifesto to the rum trade issued by a special commission appointed by the Jamaica Government has reached us in which publicans are advised to insist on procuring from the wholesale rum merchant a guarantee that the rum which he supplies is the genuine product from the island of Jamaica. "The best interests of the trade," the manifesto concludes, "will be served by again supplying the public with genuine and wholesome drink which was the practice 25 or 30 years ago, when reputation and honesty were the first consideration of the vintner and the wiles of the 'faker' were unknown." It is refreshing to receive this statement on the authority of the trade itself, and we may be pardoned for saying that it completely justifies the position which THE LANCET has taken up on the whole question of the practice of substitution by the spirit trade during the past five years.

THE LADY MARGARET HOSPITAL, BROMLEY.

A GREAT deal has been made public lately in the lay press about a hospital at Bromley known as The Lady Margaret Hospital. This is an institution which is given up to the forwarding of the views of a medical man named Josiah Oldfield, of Carnbrae, Bromley, Kent, and 5, Harley-street, W., who, besides the diplomas of M.R.C.S. Eng. and L.R.C.P. Lond., possesses the degree of D.C.L. Oxon. Dr. Oldfield considers that a meat diet is harmful and consequently his patients and followers are fed upon fruits, grains, and nuts. There is not much harm in this but we certainly do not think it right that Dr. Oldfield and his system should be blazoned in the columns of *The Daily Mirror* and in the pages of the *Penny Magazine*. According to an article by Dr. Oldfield in *The Daily Mirror*, "Those who want to learn how the great variety of nature's wealth of fruits, nuts, and grains can best be utilised should either write to the Fruitarian Society, New Kent-road, S.E., or to the Order of the Golden Age, Paignton, South Devon." An order connected with nuts as a diet and called the Order of the Golden Age figured in a singularly unsavoury trial at the Central Criminal Court about five years ago and although we do not suppose that Dr. Oldfield's present organisation has anything to do with the former one he would be well advised to cut himself off from any suspicion of any connexion with cults similar to that to which we refer.

"NINE EMINENT DOCTORS."

To the Editors of THE LANCET.

SIRS,—I have had the pleasure of receiving the *Strand Magazine* by the mail just to hand and of reading the truisms and piffle of the "nine eminent doctors" (three of whom did not put in their photos) in the article "How to be Healthy at all Ages." I am a bit out of the hurly-burly myself but I think it only cowardly bullying to bring the whole powers of the Medical Council to bear on penalising an often unfortunate general practitioner with narrow earnings and a large family perhaps and, by contrast, allow outrages like this to go by. The most that will follow will be a deprecatory remark in your journal or the *British Medical Journal*. The *Strand Magazine* being a purveyor of quack advertisements is naturally a good medium in which "nine eminent doctors" may disport themselves, giving at the same time in many instances their addresses and photographs. If an ordinary practitioner in a busy district employed 50 collectors with handbills he could not get as good an advertisement.

I am, Sirs, yours faithfully,

India, March 19th, 1906. FUROR.

*** We saw the article in question and to some extent we share our correspondent's disgust. But the "nine eminent doctors" are not all practising medical men, while the public, we believe, knows that no leader of the medical profession would take part in such a symposium. We certainly think the matter is one in which the various bodies who have given degrees or diplomas to those of the "nine eminent doctors" who are practising might point out the ethical error that has been committed.—ED. L.

INJURIES AND LOSS OF LIFE ON BRITISH AND AMERICAN RAILWAYS.

THE *Engineer* of March 30th has a long article on the injuries and fatalities arising in the course of 12 months' railway working in Great Britain and America; the periods covered though not quite coincident are sufficiently so for purposes of comparison as they both terminate in 1904. The net result is that in Great Britain six passengers were killed, or 1 out of every 199,758,000 carried, and 534 were injured, or 1 out of every 2,244,472 carried. In the United States 262 passengers were killed, or 1 out of every 2,730,609 carried, and 4736 were injured, or 1 out of every 149,107 carried. With regard to the railway employees the net result is that in America 1 in every 357 was killed and 1 in every 19 was injured, while in Great Britain 1 in every 825 was killed and 1 in every 86 was injured.

THE SUTURE OF INCISIONS OF THE ABDOMINAL WALL IN LAYERS WITHOUT BURIED SUTURES.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of April 7th, on p. 967 you publish a short communication by Mr. J. B. Pike on the above subject, and at p. 1014 of the same issue you remark upon "A New Suture for the Abdominal Wall"—viz., "that Mr. Pike's suture is ingenious, though we think the method has been already described." If Mr. Pike had referred to the literature of this said suture he would have found that Mr. E. Stanmore Bishop had already described it, and by rights should obtain the credit for it. Mr. Bishop read a paper before the British Gynæcological Society on May 22nd, 1904, in which he depicted this figure-of-eight suture and which will be found in the Society's journal (Vol. XX., Part 78, pp. 159–182).

I also may refer him to a paper of my own, "A Case of Broad Ligament Cyst, &c.," published in the Gynæcological Society's journal in Vol. XXI., Part 84, p. 312, and which appeared in the *Medical Press* of Dec. 27th, 1905, p. 672, and was noticed in the other medical papers, THE LANCET included. In the paragraph "closing of the abdominal wound" I describe this figure-of-eight suture, of which I had made use of ever since I listened to Mr. Bishop's paper above alluded to with every satisfaction, but in describing the method of suture I gave Mr. Bishop full credit as its originator, even if he was not the originator. I leave Mr. Pike to explain.

I am, Sirs, yours faithfully,

F. A. PURCELL, M.D., M.Ch. R.U.I.

Manchester-square, W., April 8th, 1906.

To the Editors of THE LANCET.

SIRS,—I am able to confirm your surmise that the figure-of-eight suture for closure of abdominal incisions suggested by Mr. J. B. Pike in THE LANCET of April 7th, p. 967, had been previously described. In the *British Medical Journal* of July 24th, 1897, p. 215, I published an account of the figure-of-eight suture, also a modification of the same, adapted to closure of the inguinal canal. When I wrote in 1897 this suture had not, as far as I know, been previously described but its principle is so obvious that I should not be surprised to learn that it is simply an old method revived.—I am, Sirs, yours faithfully,

Plymouth, April 8th, 1906. C. HAMILTON WHITEFORD.

"PARALYSED MILK."

A CORRESPONDENT sends us the following amusing paragraph extracted from a verdant contemporary:—

> A milkman, while serving a customer the other morning, was asked if he could guarantee that the milk was pure.
>
> "Oh, yes," he replied. "It has been paralysed by the public anarchist."

Incidentally he thinks that it forms a playful paraphrase of "Sterilised at the Municipal Milk Depôt."

COTTAGE HOSPITALS.

To the Editors of THE LANCET.

SIRS,—I am anxious to ascertain the probable cost of starting a small cottage hospital by means of renting a cottage and establishing therein two or three beds. Will other medical men who have had experience in this matter kindly communicate with me and forward particulars as to procedure and cost of maintaining the above scheme?

I am, Sirs, yours faithfully,

CHARLES ORMEROD, M.D. Brux., &c.

Redlands, Burgess Hill, Sussex, April 4th, 1906.

Anxious Enquirer can obtain from his medical man full advice about the use of cold baths. Their use, medically speaking, depends upon such general factors as the age and the vigour of the subject. The theory concerning woollen underclothing is of course absurd.

A Surgeon.—The article in question well displays the attitude of the lay mind in such matters. We doubt if protest would serve any practical purpose.

H. G. H.—The appearance of a bruise sometimes follows the bite of an insect.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (3 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan 9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.) Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), St. Mark's (2.30 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

WEDNESDAY (18th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Exhibition of Lantern Slides of Plant Structure prepared by Mr. A. Flatters.

FRIDAY (20th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, Cavendish-square, W.).—5.30 P.M. Clinical Cases will be shown by Dr. T. R. Whipham, Dr. C. W. Chapman, Mr. S. H. Wareham, and others. Papers:—Dr. J. McCaw (Belfast): Chloroma in a Young Subject.—Mr. R. Campbell (Belfast): The Treatment of Hernia in Children, with an Analysis of 300 Cases of Operation for Radical Cure.

EPIDEMIOLOGICAL SOCIETY (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Paper:—Dr. R. Farrar: The Infectivity of Cerebro-spinal Fever.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

WEDNESDAY (18th).—CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Dr. A. Wylie: Pharynx.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, April 11th, 1906.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
April 5	29·84	S.	...	106	60	43	43	49	Fine
,, 6	30·23	E.	...	100	60	40	43	48	Fine
,, 7	30·48	N.E.	...	102	61	40	42	46	Fine
,, 8	30·51	S.W.	...	92	59	46	45	47	Cloudy
,, 9	30·69	N.E.	...	105	60	42	42	45	Cloudy
,, 10	30·41	N.E.	...	105	64	38	43	45	Fine
,, 11	30·24	E.	...	92	62	42	45	48	Fine

During the week marked copies of the following newspapers have been received: *Daily Telegraph, Daily News, Edinburgh Evening News, Wolverhampton Midland Express, Yorkshire Post, Wigan Observer, Westminster Gazette, Birmingham Post, Southampton Echo, Acton Gazette, Morning Advertiser, Newcastle Chronicle, Herts Mercury, Scientific American, Glasgow Herald, Physician and Surgeon (Detroit, U.S.A.), The Health Resort, &c.*

Communications, Letters, &c., have been received from—

—Dr. F. W. Alexander, Lond.; Mr. J. Anjo, St. John's, Antigua.

B.—Mr. J. W. Benson, Lond.; Bridgwater Infirmary, Secretary of; Mr. G. P. Butcher, Plymouth; Mr. R. W. Burkitt, Oakham; Dr. R. L. Bowles, Sydney; *British Journal of Nursing*, Lond.; Mr. Peyton Beale, Lond.; Bolingbroke Hospital, Lond., Chairman of the Building Committee of; Mr. F. D. Byrne, Lond.; Mr. W. H. Battle, Lond.; *Birmingham Daily Post*; Mr. C. Birchall, Liverpool; Messrs. Brady and Martin, Newcastle-on-Tyne; British Association for the Advancement of Science, Lond., Chief Clerk of; Dr. J. Burnet, Edinburgh; Dr. Dudley Buxton, Lond.

C.—Clacton Traders' Association, Clacton-on-Sea; Cornwall County Asylum, Bodmin, Clerk of; Messrs. Callard and Bowser, Lond.; Miss M. Coleman, Lond.

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Z.—Dr. A. Zimmern, Paris.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. S. Agnew, Lurgan; A. A.; Apollinaris Co., Lond.; Messrs. Allen and Hanburys, Lond.; Altadore Sanatorium, Kilpedder, Medical Superintendent of; Apothecaries' Hall of Ireland, Dublin, Secretary of; A. E. J. L.

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T.—T. S. B.

W.—Dr. G. Wertier, Washington, U.S.A.; Willesden Urban District Council, Clerk of; Mr. C. Whittaker, St. Leonard's-on-Sea; Mr. J. F. Walker, Swallowfield.

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Answers are now received at this Office, by special arrangement, to advertisements appearing in THE LANCET.

The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained at all Messrs. W. H. Smith and Son's and other Railway Bookstalls throughout the United Kingdom. Advertisements are also received by them and all other Advertising Agents.

Agent for the Advertisement Department in France—J. ASTIER, 31, Rue Bapts, Asnieres, Paris.